colony. Brisbane founded three observatories—one at Brisbane, near Largs, and one at Makerstoun, both in Scotland, and one at Parramatta, near Sydney, Australia, where important work was done in cataloguing the stars of the southern hemisphere.

Briseis, daughter of Briseus of Lyrnessus, was taken captive by Achilles during the siege of Troy. When Agamemnon had to give up Chryseis to her father Chryses, he took Briseis from Achilles; hence 'the wrath' of Achilles referred to in the *Iliad.*

Brisighella, tn., Italy, prov. of and 25 m. s.w. of Ravenna; has mineral springs. Pop. (comm.) 14,000.

Brisson, EUGÈNE HENRI (1835), French politician, born at Bourges, and studied law at Paris. He was deputy mayor of Paris (1870); vice-president of the Assembly (1879), and president (1881); prime minister (1885), and an unsuccessful candidate for the presidency (1894 and 1895). He was again president of the Chamber (1894–98), and premier (June–Oct. 1898). It was mainly owing to his initiative that the revision of the Dreyfus case was undertaken. In 1906 he was once more elected president of the Chamber of Deputies.

Brissot, JACQUES PIERRE (1754–93), French revolutionist, was born near Chartres. He was trained for the law, but turned to journalism and authorship, and in 1780 published *Théorie des Lois Criminelles,* and in 1782–6 *Philosophique du Législateur.* He was imprisoned for four months in the Bastille for publishing the pamphlet *Le Diable dans un Bénitier* (1784), directed against the ministry. After a journey to America he was elected to the National Assembly. Brissot established *Le Patriote Français,* and became head of the Girondist party, who were also at first named Brissotins. Their leader warmly advocated the spread of republican principles in Europe, was in favour of war against Austria and Britain, and had much to do with the downfall of the monarchy. But opposing the trial and condemnation of the king, he incurred the enmity of Robespierre, and was arrested in June 1793, and in October following perished on the scaffold, with twenty of his Girondist friends. He was a man of singularly honest and disinterested character, virtuous, and eloquent. His *Memoirs* were edited by his son in 4 vols. (1830–2). See also Carlyle's *French Revolution.*

Bristol. (1.) Co. bor. and city, once the second town in England, stands on the river Avon, at the borders of Gloucestershire and Somerset, and on the G.W. and Mid. Rys. There are plentiful traces of British and Roman occupation, and silver pennies were struck here (978–1016) in the reign of Ethelred the Unready. The town was early infamous as a slave market. Yielding easily at the conquest, it was fortified by Bishop Geoffrey of Coutances, its castle surviving till 1665. Notable events are the insurrection of 1313–14; the Black Death in 1349; the sailing of John Cabot in 1497, on the voyage that resulted in the discovery of the mainland of N. America; the two sieges during the civil war; the 'Bridge' riots of 1793; the opening of docks in 1809; the serious reform riots of 1831; the sailing of the *Great Western* in 1838; and the opening of the new Avonmouth Dock in 1908. The new dock (constructed by Sir John Aird and Co. at a cost of £1,394,512) has a water area of 30 acres, and a high-water ordinary neap-tide depth of 25 ft. There are four dry-docks. The see of Bristol, originally distinct, was joined to that of Gloucester in 1836, but

separated again in 1897. Its cathedral retains the site and part of the building of an Augustinian monastery founded by Robert Fitzharding, who began the erection of the abbey in 1142. The present nave and west towers were completed in 1888. Even more beautiful is St. Mary Redcliffe church, and there are many other fine old churches. Other important buildings are the Colston hall, the hospital and infirmary, the two theatres, the museum, art gallery, university (incorporated in 1909), Clifton grammar school, Merchant Venturers' schools, Müller's orphanages on Ashley Down. There are many parks. The annual value of the exports exceeds 2½ millions, and of the imports 12 millions sterling. In 1909 shipping of 2,057,276 tonnage entered the port. Imports from Canada and Jamaica are particularly large. Much trade is done in cotton, cocoa, boots, corrugated iron, chemicals, timber, wool, and Irish provisions. Chatterton and Southey were born here. The city has returned four M.P.'s since 1885. Pop. 380,000. See Corry and Evans's *Bristol* (1816); Nicholl and Taylor's *Bristol, Past and Present* (1881); Hunt's *Bristol* (1887); Bickley's *The Little Red Book of Bristol* (1904); Harvey's *Bristol* (1906); and Stone's *Bristol* (1909). (**2.**) Town, Sullivan co., Tennessee, and a city in Washington co., Virginia, U.S.A., 260 m. E. by N. of Nashville. While entirely independent in organization, these two places form one body of population, the boundary line between the states traversing the main street. It is the seat of King (1867) and Sullins (1869) Colleges and S.W. Virginia Institute (1884). Manufactures include flour, lumber, and tobacco. Pop. 10,000. (**3.**) Borough, Bucks co., Pennsylvania, U.S.A., 20 m. N.E. of Philadelphia, on Delaware R., and at terminus of Delaware Canal; manufactures cotton and woollen goods, carpets, and hosiery. Pop. 7,000. (**4.**) Port of entry and cap. of Bristol co., Rhode I., on E. shore of Narragansett Bay, 12 m. S.S.E. of Providence; has a good harbour, and a shipyard famous for yacht-building; also rubber works and cotton mills. The locality is believed to have been visited by Norsemen about 1000 A.D. and to be referred to in Icelandic sagas. Pop. 8,000. See Munro's *History of Bristol* (1880). (**5.**) Town, Connecticut, U.S.A., co. of and 16 m. S.W. of Hartford; has foundries, machine shops, and engine works. Pop. 10,000.

Bristol Channel, an arm of the Atlantic Ocean, on W. coast of England, separating S. Wales from Devon and Somerset, and extending from the mouth of the Severn to St. George's Channel (80 m.). It includes the bays of Carmarthen and Swansea on the north, and Bridgwater, Minehead, Porlock, Ilfracombe, and Barnstaple on the south. It receives the rivers Towy, Taff, Usk, Wye, Severn, Avon, Parret, Tone, Taw, and Torridge. The coast-line is over 200 m. in length, and is very irregular. Lundy I. stands at the entrance to the Channel. The Channel is remarkable for its high tides, which at Bristol rise to 35 ft., Swansea 27 ft., and Newport 38 ft. The rapid inflowing tides, meeting the out-flowing Severn, give rise to 'bores.'

Britain. Camden gives the derivation from the Celtic *brith* or *brit*, meaning 'painted.' A more probable conjecture is that the Phœnicians, who first discovered the islands Albion (England and Scotland) and Ierne (Ireland), named them the land of tin—*Bratannac*—the word gradually becoming softened, through the Greeks and Romans, to Britanniсæ and Britannia. Professor

Rhys suggests that 'Britain' is derived from the Celtic *brethyn*, 'cloth'—the inhabitants being 'cloth-clad,' while the Celts wore skins. It was not until their occupation by the Romans that the word Britannia came into use as a name for the British Islands, the divisions being *Britannia Romana* and *Britannia Barbara*. Severus (beginning of 3rd century) divided Britain into two provinces, *Britannia Superior* and *Britannia Inferior*. The name Great Britain was applied to England, Wales, and Scotland on the accession of James I. in 1603, although the expression had been used for a considerable time to distinguish England, Wales, and Scotland from Britannia Minor—viz. Bretagne or Brittany, in France. On Jan. 1, 1801, when the legislative union of Great Britain and Ireland took place, the name adopted was the 'United Kingdom of Great Britain and Ireland.' For history and geography see ENGLAND, SCOTLAND, IRELAND, WALES.

Britannia, the British 121-gun stationary ship (6,201 tons) launched as the *Prince of Wales* in 1860, subsequently renamed after an older vessel, and fitted as a training-ship for naval cadets. It then gave its name to the whole training establishment at Dartmouth. There have been ships of the name in the navy since 1682, and they are associated with the battles of Barfleur and La Hogue (1692), Toulon (1793), Hotham's actions off Genoa and Hyères (1795), the battle of Cape St. Vincent (1797), of Trafalgar (1805), and the bombardment of Sebastopol (1854). A *Britannia* was first made a training-school for naval cadets in 1859. It was then stationed at Portsmouth. The *Britannia* is now superseded by the Royal Naval College, erected on the bank of the Dart. A new *Britannia* first-class battleship, 16,350 tons, was launched at Portsmouth, Dec. 10, 1904.

Britannia Metal, an alloy consisting of eighty to ninety parts of tin, ten to twenty of antimony, and sometimes small quantities of copper, zinc, lead, or bismuth. It is harder than tin, takes a good polish, and is capable of being silver-plated. The metal may be cast or worked into vessels of the required shape by pressing and rolling, and articles made of it acquire a metallic ring by heating in oil to the temperature at which the metal fuses. It is used for making spoons and teapots.

Britannia Tubular Bridge. See BRIDGE.

Britannicus (42-55 A.D.), son of the Emperor Claudius and Messalina, obtained his name from the victories which his father was held to have won in Britain. After the degradation of his mother, Agrippina, Claudius's second wife, prevailed on Claudius to make her son Nero his heir. After Nero's accession his mother tried to make use of Britannicus as an instrument to work on Nero's fear, threatening to uphold him as the lawful heir; so Nero had him poisoned in 55 A.D.

British Academy. See ACADEMY.

British and African Steam Navigation Company (1900) Ltd. This company was originally established in 1858, to run a line of steamers carrying passengers between Glasgow, Liverpool, and the west coast of Africa. In 1900 the company acquired an additional fleet of steamers from Messrs. Elder, Dempster, and Co.; and a new company was formed, with a capital of £1,000,000, Sir A. L. Jones being chairman. The company owns a fleet of 41 steamers, aggregating 108,603 tons. In conjunction with the African Steamship Co. a regular service of steamers is

maintained from Liverpool, Hamburg, and Rotterdam, to W. Africa. London offices: 4 St. Mary Axe.

British and Foreign Anti-Slavery Society, founded 1839, under presidentship of Thomas Clarkson, with the object of promoting the universal extinction of slavery and the slave trade, and the protection of the enfranchised population in the British possessions, and of all persons captured as slaves. It publishes the *Anti-Slavery Reporter*, and has its office at 51 Denison House, Vauxhall Bridge Road, London, S.W. Secretary, Travers Buxton.

British and Foreign Bible Society. See BIBLE SOCIETIES.

British and South American Steam Navigation Company, Ltd., managed by Messrs. R. P. Houston & Co. (estab. 1883), conducts a cargo service between London, Liverpool, New York, and the River Plate and S. Africa. It possesses 23 steamers, aggregating 87,838 tons. London offices: 16 Leadenhall Street, E.C.

British Association, the chief scientific association in Britain. Its formal designation is 'The British Association for the Advancement of Science.' The first meeting was held in York, on Sept. 27, 1831. Sir David Brewster was the practical founder of the association, which now numbers nearly five thousand members. Nearly half that number attend the annual meetings, which are held, on invitation, in various towns (London excepted) in the United Kingdom, though the association has also travelled to Canada and to S. Africa. It is divided into the following sections: *A.* Mathematics and Physics; *B.* Chemistry; *C.* Geology; *D.* Zoology; *E.* Geography; *F.* Economic Science and Statistics; *G.* Engineering; *H.* Anthropology; *I.* Physiology; *K.* Botany; *L.* Educational Science—some sections being subdivided into departments. A volume is published in connection with each meeting, giving the reports, addresses, and papers which are submitted to the members. A large income yields a surplus, which is devoted to grants—£1,000 to £2,000 annually—for special researches conducted by committees of the association.

British Astronomical Association, founded in October 1890 to encourage popular interest in astronomy, to associate and organize amateur observers, and to circulate current astronomical information. The association numbers more than a thousand members, and has twelve 'observing sections.' Secretaries—Major F. L. Grant, F.R.A.S., and J. A. Hardcastle, F.R.A.S.; office, 85 Gracechurch Street, London, E.C. There are branches in Glasgow, Sydney, and Melbourne.

British Central Africa, a vast territory under British protection in S. Central Africa, most of which is under the administration of the British S. Africa Company, and is officially known as N.E. and N.W. RHODESIA (see RHODESIA); the remainder, under direct imperial control, comprises the eastern part, and is known as the NYASALAND PROTECTORATE (formerly the BRITISH CENTRAL AFRICA PROTECTORATE). The boundaries of British Central Africa have been settled by the Anglo-Portuguese agreement of 1899-1900. In physical configuration British Central Africa is a vast plateau, flanked on the E. by Lake Nyasa, and pitted by numerous other great lakes, the most important (wholly or in part within the British sphere of influence) being Tanganyika, Bangweolo, Mweru, Moir Lake, the Mweru Salt Swamp, and Lake Kampolomba. The principal rivers

are either affluents of the Zambezi (the Shire, Kafue, Loangwa, Kabompo) or of the Congo (the Chambezi, Luapula). The whole table-land is 'tortured into lumps and ridges and tilts, which are styled mountains,' the highest known elevation being the volcanic Mlanje (9,683 ft.), south of Lake Chilwa. On the western versant of Lake Nyasa the table-land occasionally reaches 7,000 to 8,000 ft. The river valleys are covered with alluvium; and minerals are plentiful, especially iron, copper, and coal (in the sandstone formations). The highlands are fairly healthy, but the low-lying parts are infested by the tsetse fly. Average rainfall, about 40 in. The flora is fairly abundant, and in places becomes tropically luxuriant, with nearly all the characteristic plants and trees of tropical Africa. The fauna includes some W. African species, but lacks the ostrich, oryx antelope, the aard wolf, the zebra, and the secretary bird, all characteristic of S. Africa. Antelopes are abundant; the elephant and rhinoceros are still found.

The natives speak Bantu languages, and seem to be a fusion of the east coast negro, the west coast negro, and the Bushman. The Angoni, the ruling caste between Lake Nyasa and the Loangwa, are akin to the Matabele. The dominant people of Nyasaland, however, are the fine race of the Yao, invaders from the east. The important Barotse, under their enlightened king Lewanika, in the west, are connected by language with the Lower Guinea and Congo basin peoples. The entire native population does not exceed three millions.

British protection was extended to this area, originally opened up by Livingstone, between 1890 and 1891. N. Rhodesia, now that the Arab slave-raiders are suppressed, and the territory is traversed by the trans-continental telegraph, has a chance of steady development. It is a field of active missionary enterprise. Area about 120,000 sq. m. The chief towns within the protectorate are Fort Jameson (administrative centre), Fife, Abercorn, and Kituta. The NYASALAND PROTECTORATE (until 1907 the *British Central Africa Protectorate*) and comprises the eastern portion of British Central Africa, is administered by a governor, assisted by an executive and legislative council. It is divided into thirteen districts, and has an area of 40,000 sq. m., and a population of about 1,000,000, of whom about 600 are Europeans. The exports are valued at £125,000, and the imports at £140,000 per annum. The chief articles of export are coffee, cotton, rubber, strophanthus, ivory, beeswax, ground-nuts, and oil seeds. The imports are chiefly soft goods, provisions, and hardware. The chief towns are Blantyre, Zomba (the headquarters of the administration), Fort Johnston (principal port on Lake Nyasa and naval depôt), and Chiromo (port at the junction of the Ruo and Shire). At Chinde, at the mouth of the Zambezi, a piece of Portuguese territory is leased for the transhipment of goods free of duty. Blantyre is connected with Port Herald (near the Portuguese boundary) by rail; the line is being continued to Lake Nyasa. The protectorate is connected telegraphically with the Cape *viâ* Salisbury. See Sir H. H. Johnston's *Brit. Central Africa* (1897); H. Drummond's *Tropical Africa* (1888); Scott Keltie's *The Partition of Africa* (1895); H. L. Duff's *Nyasaland under the Foreign Office* (1906); and *The Handbook of Nyasaland* (1st issue 1909).

British Columbia, a prov. of Canada, bounded on the E. by

Alberta, S. by the United States, W. by the Pacific Ocean and Alaska, and N. by the 60th parallel of N. lat. The boundary with Alaska was definitively settled by the award of the Alaskan Boundary Commission in October 1903. Its estimated area of 350,000 sq. m. includes the former crown colony of Vancouver I. (area, 14,000 sq. m.). In 1866 the two colonies were united, and in 1871 were admitted, as the Province of British Columbia, into the Dominion.

The surface is extremely rugged, and contains some of the finest mountain scenery in America. The chief rivers are the Columbia and the Fraser. The coast, much indented by long fjords, is protected by a submerged mountain range, forming a continuous chain of islands. Part of the coast-line (55° to 60° N.) belongs to Alaska. The climate varies greatly, but is much milder than that of the corresponding regions on the east of America in the same latitude. The interior generally is dry and almost rainless, but parts suffer from heavy rainfall.

The chief industries are mining, fishing, lumbering, and fruit-growing. A large part of the country is densely wooded, and many trees are of great commercial value—*e.g.* the Douglas pine, the Menzies fir, and the red cedar. The mines, forests, fruit-farms, and fisheries are the chief sources of wealth. The rivers swarm with salmon, and there are numerous canneries. The seal fishery, formerly depleted, is slowly reviving under the Bering Sea Regulations. The annual value of the fisheries is about £1,600,000.

The mineral wealth is incalculable. Extensive coal fields occur on the mainland, and at Nanaimo on Vancouver I. The Nanaimo coal field (area, 200 sq. m.) forms an important factor in naval defence, being close to and in railway communication with Esquimault harbour, the fortified headquarters of the N. Pacific squadron. On Queen Charlotte I. is a large anthracite coal area. The province produces about 1,700,000 tons of coal annually. Iron is found in many places. The output of gold is over £1,000,000 per annum. In the Kootenay districts quartz-mining has been largely developed, owing to the opening of the Crow's Nest Pass branch of the C.P.R., and there too fruit-growing has taken firm root. The gold fields of the Cassiar district are within the boundaries of British Columbia. The population is about 280,000. The chief towns are Victoria, the capital, on Vancouver I.; Vancouver; New Westminster, the former capital; Nanaimo, Rossland, Nelson, and Prince Rupert.

The province is administered by a lieutenant-governor, with executive council and legislative assembly of forty-two members, and is represented at Ottawa by three senators and seven members of the House of Commons. See Warburton Pike's *Through the Sub-Arctic Forest* (1896); H. S. Somerset's *The Land of the Muskeg* (1895); Begg's *History of British Columbia* (1894); Macnab's *British Columbia for Settlers* (1898); W. D. Wilcox's *The Rockies of Canada* (new ed. 1900); and *Official Publications* of the province.

British Cotton-growing Association, formed under royal charter in 1904 to exploit new sources of cotton supply within the British empire, and so render the Lancashire cotton trade less dependent on the crops of the United States, and less liable to the disastrous effects of a shortage and widely fluctuating prices. Its capital was fixed at £500,000, but was not fully subscribed—three-fourths being offered to the public for subscription. The prospectus states that experiments carried

on since 1902 have demonstrated that all the cotton which Lancashire requires can be produced in the British colonies, dependencies, and protectorates. Steps have already been taken to encourage cotton-growing in India, the W. Indies, British Guiana, E. and W. Africa, Australia, and S. Africa, and the government has fully recognized the imperial character of the association's work. The approximate value of the cotton grown more or less directly under the auspices of the association is:

1904	£75,000
1905	150,000
1906	200,000
1907	390,000
1908	350,000
1909	450,000

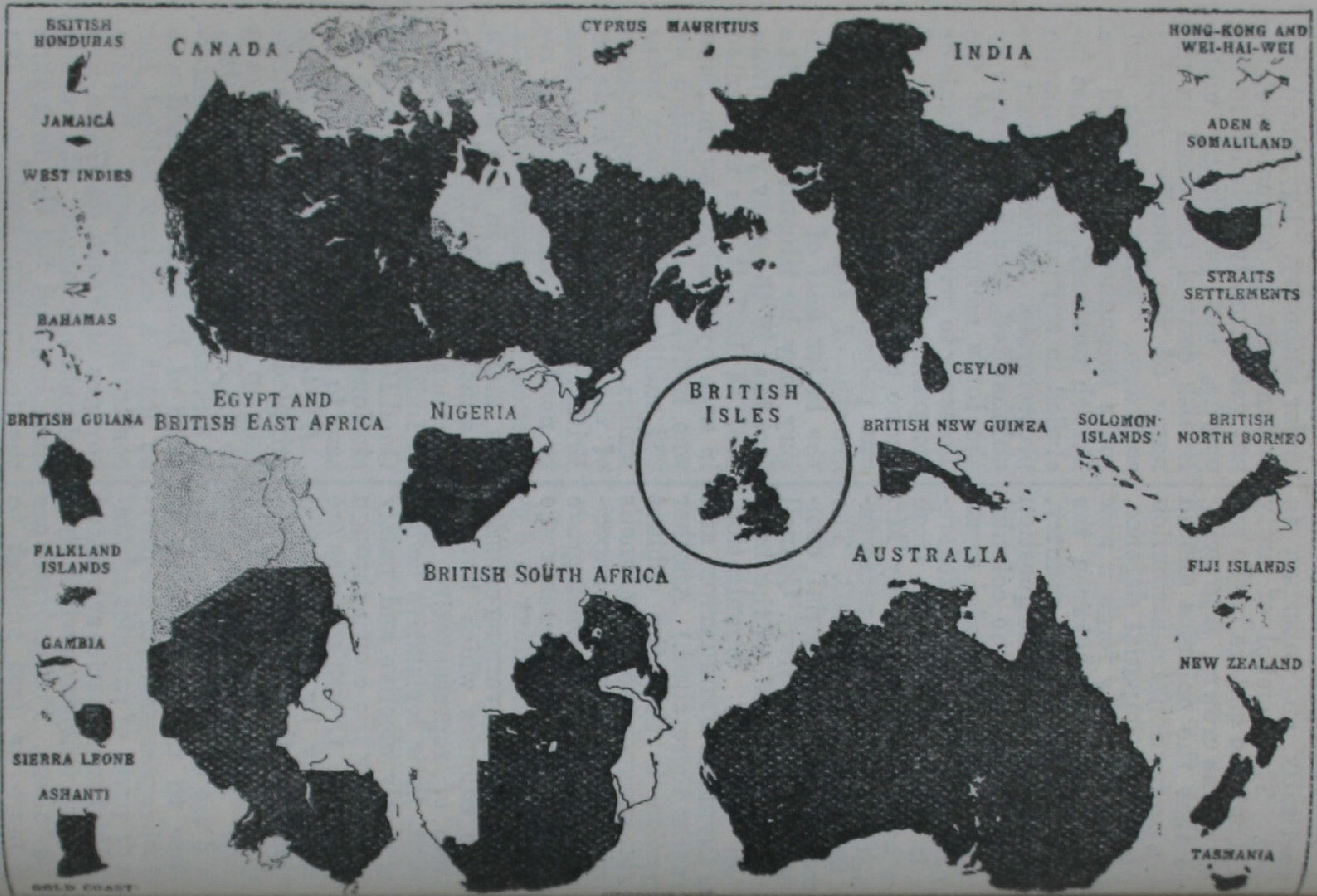
Head offices of the association: 15 Cross Street, Manchester.

British East Africa, the largest political division of E. Equatorial Africa, extending from some 400 m. of coast on the Indian Ocean to the Congo Free State and the western watershed of the basin of the Upper Nile on the west. The southern boundary runs from Umba in a N.W. direction to the intersection of the Victoria Nyanza with the 1st parallel of N. lat., skirts the northern shore of the lake, and thence strikes W. to the boundary of the Congo Free State. The northern boundary begins at the mouth of the Juba R., which it follows to the intersection of the stream with the 6th parallel of N. lat., then runs to the 35th meridian E. long., and follows that to its intersection with the Blue Nile (Anglo-German agreements, 1886 and 1890). Total area (including part of Somaliland), about 1,000,000 sq. m. British East Africa consists of (*a*) the EAST AFRICA PROTECTORATE (*q.v.*), and (*b*) the UGANDA PROTECTORATE (*q.v.*). In 1905 British E. Africa was taken over from the Foreign Office by the Colonial Office. See Lugard's *British East Africa and Uganda* (1892); Purvis's *Handbook of British East Africa and Uganda* (1900); Eliot's *East Africa Protectorate* (1905); and Playne and Gale's *British East Africa* (1910).

British Empire, the unofficial but popular and convenient term for the aggregation of territory under the British crown. The title of the British sovereign is 'George V., by the Grace of God of the United Kingdom of Great Britain and Ireland and of the British Dominions beyond the Seas King, Defender of the Faith, Emperor of India.' The various colonies, possessions, protectorates, etc., which comprise the empire are indicated in the accompanying table. Many of these states have responsible government and a parliamentary system, approximating closely to that of Great Britain and Ireland, granted by the Imperial Parliament. All legislative acts of these local parliaments require the royal assent, which is given through a governor or governor-general nominated by the crown, and exercising certain royal prerogatives, though in practice most of his duties are ceremonial and social. Theoretically, the transcendental power of Parliament over every dependency of the British crown exists, but practically it is in abeyance in the case of the local affairs of self-governing colonies and is never exercised except when its action is invited by a colonial legislature, or when a colonial legislature refuses or neglects to perform its proper functions. Every colonial subject enjoys the advantages of British citizenship, and the right of ultimate appeal in legal matters to the judicial committee of the Privy Council. One material privilege within the empire, and peculiar to it, is the imperial

penny postage, established in 1898. Each self-governing colony is practically an *imperium in imperio*. The symbol of unity throughout the empire is the authority of the crown. A growing desire that the colonies should make a proportional contribution to the cost of imperial defence, and should thereby forge a new and tangible link between the colonies and the mother country, led to a discussion of the question at the meetings of the colonial premiers with the colonial secretary in 1902. Imperial federation is still in the air, a fresh form being given to it by Mr. Joseph Chamberlain's preferential tariff proposals of 1903. The formation of an imperial committee of the Privy Council has been suggested as the basis of an imperial organization. (See IMPERIAL FEDERATION, and the works there cited.) Another suggestion is that the cabinet should summon to its councils colonial premiers and other specially qualified persons when grave matters of imperial interest come up for discussion. Next in dignity to the self-governing colonies are the colonies which have a measure of representative government, their legislative bodies being partly elective and partly nominated by the crown through the governor. Crown colonies are ruled directly by the imperial government, through their respective governors and local officials. Dependencies, in the specific use of the term, are subordinate to the government of some other possession, or are provinces or parts of colonies administered by functionaries appointed by the governments on which they are dependent. Protectorates are areas more or less subject to British control by treaty or otherwise, but internally independent. In addition, the empire includes 'spheres of influence' nominally belonging to Britain, but either unoccupied or not yet brought under authority. Egypt and the Sudan form an anomalous class, not yet formally included in the empire, but practically under British control exercised in the name of the locally reigning sovereign. Many islands and rocks throughout the world are British territory, but are not included in any colony or separate protectorate. Some of them are uninhabited, others are leased by the lords commissioners of the Treasury to private individuals or companies for the collection of guano or the planting of cocoanut palms. The extraordinary growth of the empire during the latter half of the 19th century may be illustrated by the fact that in the sixty years from 1837 to 1897 it was augmented in area by 2,921,000 sq. m., and was increased in population by 232 millions, 2¼ millions being whites. The absolute dependence of the empire and its trade on British sea power is too obvious to need more than a passing reference. Permanent squadrons are maintained in the English Channel, the Atlantic, the Mediterranean, Newfoundland, China, E. Indies, Australia, and Cape of Good Hope; and fortified coaling stations enable a warship to be sent to any part of the world.

History.—Before the Turks crippled the Italian cities by shutting up the old avenues of trade to the East, and thus compelled, in a measure, the maritime enterprise of Portugal, England was at least a century behind her continental neighbours. But the voyages of Vasco da Gama and Columbus changed the whole situation, and for the first time the geographical position of the British Isles became a national asset. But England did not at once enter into the race for oversea dominion and trade. The


BRITISH HONDURAS
JAMAICA
WEST INDIES
BAHAMAS
BRITISH GUIANA
FALKLAND ISLANDS
GAMBIA
SIERRA LEONE
ASHANTI
CANADA
CYPRUS
MAURITIUS
INDIA
CEYLON
HONG-KONG AND WEI-HAI-WEI
ADEN & SOMALILAND
STRAITS SETTLEMENTS
EGYPT AND BRITISH EAST AFRICA
NIGERIA
BRITISH ISLES
BRITISH NEW GUINEA
SOLOMON ISLANDS
BRITISH NORTH BORNEO
BRITISH SOUTH AFRICA
AUSTRALIA
FIJI ISLANDS
NEW ZEALAND
TASMANIA

voyages of the Cabots remained but isolated incidents, and were the achievements of alien adventurers. England had as yet no navy, and had to serve a century-long apprenticeship to the sea before she was fitted to play her destined part; and the dynastic as opposed to national ambitions still drew the island power into the complications of continental politics. The 16th century is the period of England's preparation for empire. Henry VIII. built up a navy, and prepared the way for the naval glories of Elizabeth's reign. England took the Protestant side in the religious controversies, and religious zeal was at least one of the animating motives of her buccaneering adventurers in their ceaseless forays against Spain; while Elizabeth drew England from the turmoil of dynastic policies, and made the national policy, first fully realized by another 'kinless loon,' Oliver Cromwell, the ideal of English statesmanship.

When, at the beginning of the 17th century, English colonies at length were founded, all the most eligible situations had been appropriated. Gold mines and silver mines and the spices of the East were the chief objects of desire, and in the unappropriated lands gold and spices there were none. But the luck of the British empire was never more strikingly displayed than in the fate that gave it cod fisheries and wheat fields, pine forests and tobacco plantations, instead of the mines of Peru and the spices of the East. The natives were singularly intractable, but the land was nearly empty. The natives could not be reduced to servitude or induced to labour, but the climate was no bar to colonization and work; and the very absence of dazzling mineral wealth was the reason for the colonies being treated with that 'salutary neglect' which was so fruitful a cause of their development. It was not the English character, but the English luck, that gave her a New England, a Virginia, a Newfoundland, on which to form her national and her colonizing character, before she was tempted by the more dazzling prize of India.

The beginnings of settlement were made in Newfoundland in 1583 by Sir Humphrey Gilbert; but little progress was made either there—in the oldest colony—or in Virginia, which Raleigh named in honour of Queen Elizabeth in 1584. But the formation of the Virginia Company in 1606 may be taken as the practical starting-point of the British empire. The method of colonization by companies was much favoured in that age; but, as Adam Smith points out, one advantage the English colonies had over those of other nations was that their trade, if monopolized, was not restricted to a single port, as the Spanish colonies were, or to a single company. The single instance of a local company, the Plymouth Company, did not long survive the intrusion of the Pilgrim Fathers into their sphere of influence, and the colonies were early regarded as national concerns. The charter of the Virginia Company was revoked in 1624, and the colony came under direct rule. In 1620 the Pilgrim Fathers, who had been granted freedom to settle in the territories of the Virginia Company, landed at Cape Cod, and formed the colony of Plymouth; and in 1627 the rights of the Plymouth Company, such as they were, were bought up by the colonists. New Scotland, or Nova Scotia, had in the meanwhile been granted to Sir W. Alexander, though but little was effected save the creation of Nova Scotia baronets.

The early Stuart kings had no ideas regarding colonial policy.

But the colonies gained, rather than lost, by neglect. Representative institutions had sprung up almost spontaneously; religious tolerance was practised, or at least nonconformity was permitted; and what of commercial regulation there was favoured rather than restricted the colonies. It was a period of quiet growth.

Cromwell stands out as our greatest colonial statesman. It was he who discerned that the problem of international politics was colonial expansion. The history of the 17th century is somewhat obscured by the fact that it is the meeting-ground of two policies. The contests of the 16th century were dominated by the religious issue; the politics of the 18th century were concerned with colonial empire. In the 17th century it was sometimes the one and sometimes the other; and it is difficult to say which idea drove Cromwell to war with Spain, which resulted in the capture of Jamaica in 1655. But envy of Holland's greatness is the keynote of much of England's policy during the 17th century. Cromwell, indeed, did not adopt Shaftesbury's 'Delenda est Carthago' attitude in his speeches, but the Navigation Act of 1651 was as resolutely anti-Dutch. This measure was not primarily colonial, but commercial. It was aimed at the Dutch carrying trade, and was but the last of a long series of Navigation Acts. It differed from its predecessors in being effectual, and it was rendered so by the existence of the colonial trade of England, in which the Dutch had managed to participate. In reality it greatly favoured the colonies, especially New England, where it encouraged shipbuilding.

The rivalry with the Dutch continued unabated during the reign of Charles II. The Navigation Act was renewed and made more stringent by the Act of 1660 and the Act of 1663. But unfor-nately, while striking at the Du these acts prejudiced the in ests of the colonies; and f 1660 dates the policy of restrict on the commerce and industry the colonies, which lasted nearly two hundred years. practice, neither in the 17th no the 18th century was there m hardship, for England was natural market and the natural trepôt for colonial goods; and the operation of a system of dr backs, goods were sold chea in the colonies than they co be bought by Englishmen in E land. There were also restricti on colonial industries, in orde secure the market for the Engl producer; but these restricti were offset by bounties offered England for the production of r material for the English n and for English manufactur On the whole, it may be sa with Brougham, that these strictions were 'superfluous rat than burdensome,' which is p haps a very strong condemnati of a system that was described Burke as a 'badge of servitude

The colonial policy of the la Stuarts is not marked by the grace of their purely English r ord. Clarendon and Shaftesb stand at least for enlighte ideas, and the whole period one of steady growth in Ameri In 1664 the Dutch were dri from New Amsterdam, and N York was founded. In 1670 Hudson Bay charter was grant and in 1681 the colony of Pe sylvania was granted to Pe and the solid block of colo from New England to Florida no mean record for three-quar of a century of colonizing.

The English revolution bri into the foreground the fu mental issue of the 18th centu the rivalry between England France, unobscured by dyna or religious questions. Aided

the policy of Cromwell and the Stuarts, France had increased while the Dutch had decreased. Richelieu had created a French nation and consolidated colonial policy, and Colbert had the genius to reorganize the commercial system by borrowing Dutch ideas. France was thenceforth the antagonist; and when, by the Family Compact, she commanded the strength of Spain, she was a rival that strained every resource of England. The result was a hundred years' duel for supremacy, which did not end till Waterloo. By La Salle's discovery of the Mississippi, and the consequent foundation of Louisiana, it became the object of France to shut the English colonies in between the Alleghanies and the sea. France commanded the two main routes into the interior of the continent, the St. Lawrence and the Mississippi; while the English colonies quarrelled among themselves, and placed obstacles in the way of the action of the English government. But France failed in the 18th century, as Napoleon failed in the 19th, because she could not keep clear of European entanglements. England had cut herself free, and fought France in Germany and the Low Countries only to gain territory in America and the Indies. The English colonies increased in population, in commerce, and in wealth, and their compact and growing mass was irresistible against a stationary population and a primitive stage of industry which French organization fixed upon Canada.

It is not necessary to describe in detail the growth of the British empire by conquest during the first half of the 18th century. It is by conquest rather than by settlement that it grew. The treaty of Utrecht in 1713 finally added Nova Scotia, and secured recognition of the English right to Newfoundland, leaving to the French, however, the ambiguous and vexatious French shore rights. The war of the Spanish Succession broke down the Spanish monopoly; and the great Seven Years' war was fruitful of conquest for England in America and in India. Canada was the great acquisition in America, and the British East India Company found itself at the close of the war a territorial sovereign on an immense scale. The peace of 1763 seems to mark the final triumph of England; yet it was but the prelude, and in part the cause, of a great disaster—the revolt of the American colonies.

During the long war period the colonies suffered but little, and contributed materially to the success of British arms. The capture of Louisburg stands to their credit, and they anticipated by a century and a half the contribution of colonial contingents. In the main they were not burdened, and were left free to develop their own resources in their own way; and they increased rapidly in population. Adam Smith points to this political freedom as one of the chief causes of their prosperity; and whatever may have been the grievances of the colonies, political oppression was not one of them.

Two ideas struggled from the first to dominate colonial policy—that of settlement and that of possession. The Navigation Acts mark the triumph of the idea of possession, so far as commerce was concerned; but whether through distance or indifference, the English at home did not press the idea of possession so far as to prevent the growth of representative institutions, or to demand a tribute. The colonies possessed a larger measure of freedom than was enjoyed at home; and since there was but a slight emigration from England, and their increase was almost entirely a natural

STATISTICS OF THE BRITISH EMPIRE.

	Area in Sq. Miles.	Pop. in 1,000's (est.)	Governments.
UNITED KINGDOM:—			
England and Wales	58,323	36,000	Constitutional Monarchy.
Scotland	30,405	5,000	
Ireland	32,360	4,370	
Isle of Man	227	55	Governor, Council, and House of Ke[ys].
Jersey	45	100	Lieut.-Governor; Court; States.
Guernsey, etc.	30		
	121,390	45,525	
EUROPE:—			
Gibraltar	2	18	Military Governor.
Malta	95	213	Governor; Councils.
Gozo	20		
Comino	2		
Cyprus	3,584	260	High Commissioner; Councils.
	3,703	491	
ASIA:—			
Aden Dependencies and Protected Territory, Perim, Socotra, Kuria Muria Is.	10,500	56	Political Resident (under the Government of Bombay).
Bahrein Is.	..	70	Political Agent under Indian Government.
India and Burma	1,097,900	235,000	Viceroy; Council; Departments.
Indian Feudatory States, Baluchistan, etc.	690,272	62,460	Native Rulers under Political Supervision.
Ceylon	25,330	4,150	Governor; Executive and Legislative Councils.
Federated Malay States	38,000	1,650	Under Straits Settlements with Resident General.
Straits Settlements	1,600	630	Governor; Executive and Legislative Councils.
Laccadives	740	10	Under Madras Government.
Maldives	..	..	Under Ceylon Government.
Andaman	2,500	18	Chief Commissioner under Indian Government.
Nicobar	635	6	
Borneo, British North	31,106	175	Governor (British North Borneo Company).
Brunei	3,000	25	Native Sultan under British Resident.
Sarawak	52,000	600	Protected State under Rajah Brooke.
Hong-kong and Kowloon	400	400	Governor; Executive and Legislative Councils.
Wei-hai-Wei	285	130	Governor.
	1,954,268	304,380	
AFRICA:—			
Cape of Good Hope	276,995	2,500	The Union of South Africa—Governor-General; Executive Council; Senate; House of Assembly.
Natal	35,371	1,206	
Transvaal	110,426	1,360	
Orange Free State	50,392	400	
Basutoland	10,293	348	Resident Commissioner.
Bechuanaland Protectorate	275,000	134	

STATISTICS OF THE BRITISH EMPIRE.

	Area in Sq. Miles.	Pop. in 1,000's (est.)	Governments.
AFRICA (*continued*):—			
Swaziland	6,536	86	Resident Commissioner.
Rhodesia, N. & S.	440,000	1,600	Executive Council and British South Africa Company.
Nyasaland Protectorate	43,600	1,000	Governor; Executive and Legislative Councils.
East Africa Protectorate	200,000	4,000	Governor; Executive and Legislative Councils.
Uganda Protectorate	118,000	4,500	Governor and Native Council.
Zanzibar Protectorate	1,020	250	Sultan and Consul-General.
Somaliland Protectorate	68,000	350	Commissioner.
Mauritius	700	380	Governor; Executive and Legislative Councils.
Seychelles	155	22	Governor; Executive and Legislative Councils.
Gambia	4,500	160	Governor; Executive and Legislative Councils.
Sierra Leone	33,000	1,500	Governor; Executive and Legislative Councils.
Gold Coast Colony	120,000	2,000	Governor; Executive and Legislative Councils.
Northern Nigeria	256,000	9,000	Governor and Native Residents.
Southern Nigeria	80,000	6,500	Governor; Executive and Legislative Councils.
St. Helena	47	3·5	Governor and Executive Council.
Ascension	35	0·1	Under the Admiralty.
	2,130,070	37,299·6	
AMERICA:—			
Canada	3,745,574	7,500	Governor-General; Parliament.
Newfoundland and Labrador	162,734	237	Governor; Parliament.
Bermudas	20	17	Governor; Executive and Legislative Councils.
British Honduras	8,562	45	Governor; Executive and Legislative Councils.
Bahamas	4,450	60	Governor; Executive and Legislative Councils.
Barbados	166	194	Governor; Executive and Legislative Councils.
Jamaica	4,424	850	Governor and Legislative Assembly.
Trinidad & Tobago	1,868	300	Governor; Executive and Legislative Councils.
Leeward Is.	705	127	Governor; Executive and Legislative Councils.
Windward Is.	724	400	Governor-in-Chief and Councils.
British Guiana	90,500	300	Governor; Executive and Legislative Councils.
Falkland Is. and South Georgia	7,500	2·4	Governor; Executive and Legislative Councils.
	4,027,227	10,032·4	
AUSTRALASIA:—			
New South Wales	310,367	1,645	Separate State Legislatures and Governments (Governors); Federal Parliament and Government; Governor-General and Executive Council.
Victoria	87,884	1,273	Separate State Legislatures and Governments (Governors); Federal Parliament and Government; Governor-General and Executive Council.
Queensland	670,500	560	Separate State Legislatures and Governments (Governors); Federal Parliament and Government; Governor-General and Executive Council.
S. Australia	380,070	375	Separate State Legislatures and Governments (Governors); Federal Parliament and Government; Governor-General and Executive Council.
Northern Territory	523,620	25	Separate State Legislatures and Governments (Governors); Federal Parliament and Government; Governor-General and Executive Council.
Western Australia	975,920	280	Separate State Legislatures and Governments (Governors); Federal Parliament and Government; Governor-General and Executive Council.
Tasmania	26,215	185	Separate State Legislatures and Governments (Governors); Federal Parliament and Government; Governor-General and Executive Council.
Papua	90,540	400	Under Commonwealth Government.
New Zealand	104,751	1,030	Governor and Houses of Parliament.
Fiji	7,435	130	Governor and Legislative Council.
Pacific Islands:— Tonga, Solomon, & Gilbert Is., etc.	[12,556	211	High Commissioner for the Western Pacific.
	3,189,858	6,114	
Total	11,426,516	403,842	

growth, they quickly came to a sense of detachment. By the middle of the century foreign observers noted this independence of idea, and predicted that if ever the menace of the French on the northern border were removed the colonies would declare their independence. It is doubtful how far Canada had been a real menace, but events which followed its conquest rapidly prepared the way for disruption.

The treaty of Paris (1763) found England burdened with a huge debt. It was never proposed to burden the colonies with any part of the debt, but it was considered necessary that they should provide for their own defence. This they were willing to do, but the different colonies could come to no agreement; and considering the necessity of the situation, the home government took the fatal resolution of levying taxes in the colonies to provide such an army. All the money was to be spent in the colonies, and the imperial government acted only because the colonies were too jealous of each other to act together. So the famous Stamp Act was passed in 1765, and the tea duties were imposed in 1767. This was an extension of the idea of possession. A policy of interference was new, at least in its application. And so the American colonies were lost, and England was left in 1783 with possessions entirely differing in character from the colonies she had lost. The most important of them were won by conquest, and contained large alien populations. The maxims of colonial government had to be changed, and it was three-quarters of a century after 1783 before colonial policy was as enlightened as it had been before 1763.

In truth, the revolt of the American colonies paralyzed colonial policy; and although the Navigation Acts survived in form till 1849, the mercantile policy which inspired them was discredited by the totally unexpected results of the loss of America. By all the rules England should have been ruined, and her trade with America destroyed; but, as a matter of fact, America as a free nation bought more from England than she had done as a colony. By a singular coincidence the moral of the situation had been enforced by Adam Smith in the *Wealth of Nations*, published in the year of the Declaration of Independence (1776), and event and comment served to illustrate each other. The lesson of freedom was, however, not learned at once, and the growth of trade with the United States served rather to discredit the old than to establish a new colonial policy. The exigencies of the long war with France rendered it necessary to make temporary relaxations of the commercial restrictions, and after the war these temporary measures were confirmed by statute. Canada was favoured, and her lumber industry created, by a system of bounties which military policy suggested; and the restrictions were practically all removed by the reforms of Huskisson. The interest of the colonies in the free trade movement was that their preference in the home market should be retained, and the repeal of the Navigation Acts left them unaffected.

But though the revolt made for greater freedom in commerce, it had the opposite effect with regard to government. The period from 1783 to 1850 may be described as the period of despotic government. In no one of the sixteen colonies acquired by conquest or occupation at the beginning of the 19th century did representative institutions spring up as they had done naturally in the early American colonies. While there was

little interest in, and no sense of the value of, colonial possessions, there was a very great jealousy of colonial freedom, as likely to lead to republicanism and separation. Even as late as the time of the Reform Bill, a secretary of state could declare that to allow a popular assembly was to create a republican institution. There is a certain justification for this change of policy in the changed character of the colonies. They were no longer settlements of Englishmen; they were possessions. The colonies acquired by conquest had never enjoyed self-government.

The struggle for responsible government comes out most distinctly in the history of Canada. After the capture of Quebec in 1759, Canada remained under military rule till 1774, when the Quebec Act was passed to establish regular government. This act, guaranteeing French liberties and customs, was effective at least in keeping the Canadians loyal during the war of independence; and the wise government of Carleton saw the nucleus of a new empire safely through the troubled period. The Quebec Act, however, had given an almost indefinite expansion to French Canada; and after the immigration of the United Empire loyalists during and after the war, it was felt that a change was necessary to secure to these loyalists some measure of independence of the French element. The result was the Constitutional Act of 1791, which created the new province of Upper Canada (Ontario). But even of the loyalists the home government was jealous, and they were not accorded the measure of self-government which the former American colonies had enjoyed. During the early decades of the 19th century there was a large influx of settlers from the United Kingdom, and the effect of their presence was a gradually increasing agitation for responsible government. In 1837-8 discontent of a racial character in Lower Canada (Quebec), and of a political character in Upper Canada, resulted in rebellion, and in the famous mission and report of Lord Durham (1840), which marks an epoch in colonial history. The Union Act of 1840 endeavoured to remove the causes of both racial and political discontent by reuniting the provinces separated by the Act of 1791; but as history showed, it resulted in a series of deadlocks, from which escape was not found till 1867, in the foundation of the Dominion of Canada. Meanwhile the agitation for responsible government, which involved the control of all the finances, continued, and the boon was eventually conceded, first to the Canadian colonies, and later to Australia (1855). The same agitation arose in all colonies where there was a relatively large population of European descent; and, on the Canadian precedent, responsible government was granted to Cape Colony in 1872, and to Natal in 1893. On the other hand, the measure of responsible government granted to Jamaica had to be withdrawn; and about the middle of the 19th century, the distinction, with which all are familiar, between crown colonies and self-governing colonies, emerged.

The war with Napoleon resulted in a great growth of the empire; and at this time only, perhaps, is it true that the British empire was picked up in a fit of absent-mindedness. With the exception of India, these new possessions had merely a prospective value. None were regarded with enthusiasm; most were acquired with reluctance. With the exception of Tobago and St. Lucia, all the British conquests in the W. Indies were returned to France.

Trinidad, which had belonged to Spain, was, however, retained. Mauritius, which was captured in 1810, thus ending the French danger to India, was retained at the peace, simply because, in the hands of France, it had been a danger to British commerce. The Cape, which had been taken from the Dutch (1795), returned, and afterwards retaken, was retained as a naval and military station on the way to India. Australia had been formally taken possession of for the empire, and in 1788 it started its colonial career as a convict station. Colonial policy was a policy of drift, from which the home administration was not saved even by the pressure of the agitation against slavery.

After the abolition of the slave trade in 1808 there grew up a tenderness of conscience regarding the treatment of native races. This was practically a new phenomenon: for in spite of the example of Penn, little regard except hatred had been shown for the natives by the American colonists; and England had a bad pre-eminence in the slave trade, for participation in which she had fought at least one war. The new colony at the Cape was especially an object of observation on the part of philanthropists at home. There the Dutch settlers maintained the early attitude towards the natives, who, however, showed no signs of conveniently melting away before European civilization and vices, as the aborigines of America and Australia have done; and the origin of most of the difficulties of S. African history has been the indiscreet and inconsistent interference of the home authorities with the native question. In other colonies the problem has been solved by the local action of the colonies themselves; but in S. Africa the native question still remains a source of difficulty between the colonists and the imperial government. The same difficulty arose in New Zealand, which was founded in 1840; but there the matter was complicated with land questions, which led to long wars with the Maoris.

Australia presented its own problems. It was founded in 1788 as a convict settlement, and the colony of New South Wales included the greater portion of the continent, Tasmania, and most of New Zealand; and the Australasian colonies have been formed by separation from the original colony—Tasmania, 1825; W. Australia, 1829; S. Australia, 1836; Victoria, 1851; Queensland, 1859. New Zealand was formally annexed in 1840. Responsible government could not be thought of in convict settlements, and it was not till transportation had ceased, and free settlement had altered the character of the population that colonial history there began. Responsible government followed in the wake of representative institutions, and in 1901 the Australian colonies federated into the Commonwealth of Australia.

The development there was quite normal; but the history of S. Africa is a history of blunders and mistakes. The Dutch themselves could probably have been assimilated or reconciled, as the Dutch and French were in America; but the Dutch and the natives together have been too much for peaceful development. The first considerable migration of British settlers took place in 1817 and 1820, and since then there have been four parties, often at variance with each other—the Dutch, the English, the natives, and the imperial government, which has never remained long of one mind. Several times the Dutch have sought to leave the sphere of British administration, and several times they have been brought back under it, with their

United Kingdom Trade with British Possessions, 1909.

	Imports.	Exports.
	£	£
Channel Islands	1,689,701	1,251,689
Gibraltar	27,555	585,304
Malta and Gozo	30,573	800,756
Canada	25,222,963	15,688,105
Newfoundland (including Labrador)	325,313	610,090
Bermudas	5,831	125,651
British West India Islands (including Bahamas)	2,161,600	2,396,018
British Guiana	722,117	636,012
British Honduras	105,586	110,796
Australia	32,646,415	23,998,845
New Zealand	17,730,866	7,351,619
British India	35,430,771	43,581,501
Straits Settlements & Dependencies	8,459,708	3,668,702
Ceylon and Dependencies	5,546,827	1,827,508
Hong-kong	455,674	3,567,350
Mauritius and Dependencies	232,264	398,569
Aden and Dependencies	187,953	296,632
Eastern Coast of Africa: Territories under British influence	477,706	487,683
Natal	1,821,969	3,537,600
Cape of Good Hope	7,693,042	6,188,013
Rhodesia	113,895	512,003
Transvaal	¡305,845	4,405,369
Colony and Protectorate of Southern Nigeria	2,280,905	2,388,529
Protectorate of Northern Nigeria	11,435	317,429
Gold Coast	693,672	1,141,344
Sierra Leone	173,774	431,618
Gambia	34,394	100,824
Cyprus	173,024	131,987
Other British Possessions	490,561	284,609
Total	145,251,939	126,822,155

Total Trade of the United Kingdom, 1909.

Total exports of United Kingdom to all the world	£469,525,166
Total imports of United Kingdom from all the world	624,704,957
	£1,094,230,123
Total exports to foreign countries	£333,206,695
Total imports from foreign countries	477,796,713
	£811,003,408
Total exports to British possessions	£136,318,471
Total imports from British possessions	146,908,244
	£283,226,715

will or against it. Natal was annexed in 1843 (responsible government, 1893), to head off a Dutch migration. The Orange River sovereignty was assumed in 1848, and abandoned in 1854; the Transvaal was annexed in 1877, and practically abandoned in 1881. The S. African war led to the annexation of both republics, and at the close of the war crown colony government was set up. Self-government was granted soon afterwards, and in 1909, following the model of Canada and Australia, the several colonies were united as provinces of the Union of South Africa.

But if S. Africa is a portion of the empire whose history cannot be regarded with satisfaction, the history of the British conquest and rule of India may be taken as a compensation. The English went to India with no idea save to trade, and to safeguard and secure that trade they were led by gradual steps to build up an empire. There they met their rivals the French, and from the French they learned the art of subduing India by employing sepoys. They were well served by their agents, such as Clive and Hastings, and managed to hold their own even against such Frenchmen as Dupleix; and when, in 1788, Lord Cornwallis went out as governor-general, he went to rule an empire which had been won while America was being lost. The E. India Company had long ceased to be merely a trading concern, but it continued in some sort of authority over India even after Pitt's India Bill had transferred the sovereignty to the crown. The change made in 1858, however, was in name and imagination only, as the policy had long been directed by the government at home.

About 1831 a change is discernible at home in the attitude towards the empire. A Malthusian fear of over-population had created an interest in emigration and an important school, headed by Wakefield, advocated schemes of systematic colonization. These schemes proposed to do away with the wholesale and often corrupt disposal of colonial lands, and in theory had much merit; but there was another and more important reform demanding attention—viz. the granting of responsible government, the logical conclusion of which was the ownership of colonial lands by the colonies. Responsible government has entailed many consequences which the promoters on both sides failed to realize. It involved sanctioning colonial tariffs based on protection (1859), which free traders were sorry to admit; and it involved the withdrawal of imperial troops (*c.* 1870) from the colonies, throwing on them the responsibility for their own defence, thus solving satisfactorily the difficulty which faced Grenville in 1763; and it has meant the creation of an entirely new type of political relationship, for which the term colony is felt to be inadequate—a practically independent nation with the power to determine, in all respects, its present policy and its political future; one, moreover, whose relations to the mother country in matters of trade and finance and defence have not been fully worked out.

In the later decades of the 19th century a period of expansion set in, after a long period of consolidation; and with it revived the original policy of forming chartered companies as pioneers of empire. Africa was the chief sphere of activity, and charters were granted to the Royal Niger Company in 1886, the Imperial British E. Africa Company in 1888, and the British S. Africa Company in 1889. Of these, the Niger Company has already been superseded by the imperial government, and the S. Africa Company is said

to be willing to be absorbed. The activity of these and other companies has added greatly to the extent and responsibilities of empire, without in any degree adding to its strength or stability, and has brought the empire into contact with a new rival colonial power, Germany. See Sir J. R. Seeley's *Expansion of England* (new ed. 1895); Dilke's *Problems of Greater Britain* (1890), and *The British Empire* (1899); Davidson's *Commercial Federation* (1900); H. E. Egerton's *British Colonial Policy* (1897); José's *The Growth of the Empire* (3rd ed. 1901); and Goldman's *The Empire and the Century* (1905).

British Empire League, an association formed in 1895, in London, for the purpose of promoting trade between the United Kingdom, the colonies, and India; fostering closer intercourse between the different portions of the empire by the establishment of cheaper and more direct steam, postal, and telegraphic communication; devising a more perfect co-operation of the military and naval forces of the empire, with a special view to the due protection of the trade routes; assimilating, as far as possible, the laws relating to copyright, patents, legitimacy, and bankruptcy throughout the empire; the calling of periodical conferences to deal with these and similar questions on the lines of the London Conference of 1887 and the Ottawa Conference of 1894. Office of the association: 112 Cannon Street, London, E.C.

British Guiana, a crown colony (area, 90,277 sq. m.) on the N. coast of S. America, having Dutch Guiana, Brazil, and Venezuela on the E., S., and W. respectively. The chief rivers are the Essequibo, the Corentyne (obstructed by rapids 150 miles from its mouth), the Demerara and Berbice, the Barima (navigable for 80 m.), and the Amacuro. British Guiana is rich in gold; it is washed in all the river valleys, from the Barima in the west to the Berbice; while the mountains are more or less auriferous. There are promising diamond fields, principally in the Mazaruni district; iron ore and manganese are also found. The climate is hot, but the range of temperature is small: average maximum, 90°; minimum, 76° F. Rainfall, 120 to 140 inches annually on the coast, heavier in the forest region. The flora is that common to the tropical parts of S. America. On the southern border, and also between the Essequibo and Corentyne, are grassy plains. The centre is covered with forests yielding valuable timber, of which mora and greenheart and a kind of gutta-percha (balata) are noted. Orchids are abundant and varied. The Eta palm grows on the savannas, and the Victoria regia water-lily in the rivers. The fauna includes the jaguar and ant-eater, monkeys, tapirs, agoutis and other rodents, the boa constrictor, the frogs, fishes, and insects of Brazil. The inhabitants are chiefly Portuguese from Madeira, Negroes (more than half population), Hindu coolies, and Chinese (settlement, Hopetown). The aborigines (Caribs, Arawaks, and others) number about 8,000. The cultivation of the sugar-cane and the manufacture of sugar (over £1,200,000 worth exported annually), rum, and molasses are the principal industries. Rice is grown, and timber, rubber, and balata are exported. The exports are valued at over £2,000,000, and the imports at £1,800,000 per annum.

The settled part of the country is about one-tenth of the whole, and lies near the coast, along the navigable rivers. Here there are roads and 108 m. of railways. The ports are Georgetown (the capital)

and New Amsterdam. Pop. about 300,000.

The old settlements of Demerara, Essequibo, and Berbice are counties. The Dutch first settled on the Pomeroon R. early in the 17th century. The British were in possession of this colony from 1781 to 1783, and again from 1796 to 1802, and lastly from 1803 to 1814, when the present colony was formed, except that Berbice was administered separately down to 1831. British Guiana has had many frontier disputes with Brazil and Venezuela, the latter being brought to a head by gold discoveries in the Cuyuni. (See VENEZUELA.) The Brazil frontier question was submitted to arbitration in 1901, and settled by the award of the king of Italy in 1904.

See Schomburgk's *Reisen in Britisch Guiana in den Jahren 1840–44–47*; Brown's *Canoe and Camp Life in British Guiana* (1887); J. Rodway's *Handbook of British Guiana* (1893), and *Hist. of British Guiana* (3 vols. 1894); H. Kirke's *Twenty-five Years in British Guiana* (1898); Bayley's *Handbook of British Guiana* (1909); Harris and De Villiers's *Rise of British Guiana* (1911).

British Honduras, a crown colony on the E. coast of Central America, between the Mexican state of Yucatan and Guatemala. The N. part is low, and full of swamps and lagoons, while S. of the Belize R. the Cockscomb Mts. extend into the colony from the Guatemalan boundary. South of these mountains, hilly country nearly 2,000 ft. high connects them with the ranges of Central Guatemala. The chief exports are mahogany, logwood, bananas and plantains, and cocoa-nuts. The more accessible forests having been well worked, the quality of the timber is declining; but it is hoped that the cultivation of fruit, cocoa, sugar, and india-rubber will be extended. T climate generally is damp a hot, but not unhealthy. T temperature ranges from 50° 98°. The average lies betw 75° and 80°, but this is consid ably tempered by the prevail sea-breezes. The imports amo to about £550,000, and the expo to £450,000 annually. The ch customers are the United Ki dom and the United States. T population is composed chiefly Indians, only 1 per cent. bei Europeans. The capital and ch port is Belize. Area, 8,600 sq. Pop. 45,000. See Gibbs's *Brit Honduras* (1883), and Bristo and Wright's *Handbook of Brit Honduras* (1890-93).

British India. See INDIA.

British India Steam Navig tion Company. This comp was originally established in 1 as the Calcutta and Burma Ste Navigation Company, and to its present name in 1862. It h a capital of £1,700,000. Its pr cipal business is in the East, b it also conducts a large busin between England and India a Australia. It owns a fleet of 1 steamers, aggregating 480,563 to Dividends averaging about 7½ p cent. are paid to the sharehold London offices: 9 Throgmort Avenue, E.C.

British Institute of Soci Service, constituted July 1904, on the lines of the Mu Social of Paris and of a simi institute in America. Its obj is to provide a central bur of information on all forms practical social service. Office Tavistock Square, London, W. There are four joint-secretaries

British Isles, THE, a very e tensive archipelago west of t continent of Europe, from wh it is separated by the North S the Strait of Dover, and the E lish Channel. The whole arc pelago consists of the two la islands of (*a*) Great Britain, co

prising England, Wales, and Scotland; (b) Ireland; together with (c) about 5,000 small islands lying in groups to the N. (Orkney and Shetland), to the W. (Hebrides, Isle of Man, the small coast islands of Ireland, and the Scilly Islands), and to the S. (Isle of Wight and the Channel Islands, the last-named belonging geographically to France). Total area, 121,390 sq. m. Pop. 45,525,000.

British Medical Journal, THE, official organ of the British Medical Association. In 1840 the *Provincial Medical and Surgical Journal* was started, under the direction of Dr. Hennis Green and Dr. Streeten, and was issued weekly. In 1853 the title was changed to the *Association Medical Journal;* and four years later, when the Provincial Medical and Surgical Association became the British Medical Association, the paper appeared under its present name. Mr. Ernest Hart was editor from 1866 until his death in 1898. He was succeeded by Dr. Dawson Williams. The *Journal* holds a high position among the medical periodicals of the world.

British Medical Temperance Association. See TEMPERANCE SOCIETIES.

British Museum. In 1753, under the will of Sir Hans Sloane, his books, MSS., natural history collections, and curiosities were offered to the nation for the sum of £20,000, on condition that they should be kept together in a museum. An Act of Parliament was passed the same year, providing for the acceptance of this offer; for the purchase, for £10,000, of the collection of MSS. formed by Robert Harley, Earl of Oxford; and for the proper housing of the earlier collection of MSS. formed by Sir Robert Cotton in the reign of James I., and given to the nation by his grandson in 1700, but so badly cared for that a fire in 1727 destroyed or damaged a considerable part of them. Montague House, Bloomsbury, was purchased for £10,250, and opened (in 1759) under the title of the British Museum, the three collections already named having been previously augmented (in 1757) by George II.'s gift of the royal library formed by successive kings and queens of England, from Henry VII. to Charles II. When the museum was opened, its means were so limited that for a long time the trustees could not spend as much as one hundred pounds on purchases in any single year. The regulations at this time only allowed a maximum of thirty visitors in any one day, and the use of the reading-room was similarly restricted. In 1772, however, the vases, antiquities, and drawings of Sir William Hamilton were purchased by parliamentary vote for £8,400; in 1799 the Rev. Clayton Mordaunt Cracherode bequeathed to the museum his fine collections of books and prints; the Egyptian antiquities obtained under the capitulation of Alexandria were presented by George III. in 1802; the Towneley marbles, coins, and drawings were bought between 1805 and 1814 for £28,200, the Lansdowne manuscripts in 1807 for £4,925, the Phigalian marbles in 1815 for £15,000, the Elgin marbles in 1816 for £35,000, and the Burney library in 1818 for £13,500. Lastly, in 1823, by an arrangement with his successor, the terms of which have never been disclosed, the magnificent library formed by George III. was transferred to the museum. These large additions, with the more liberal regulations adopted in 1810, by which the public were admitted freely between ten and four on three days in each week, demanded an increase of space far in excess of the accommodation offered by Montague House. A new wing was first erected on the

west side of the building for the reception of the Towneley and Elgin marbles; next a fine gallery was opened on the east side in 1827 for the king's library (books collected by George III.); and these wings were finally joined by galleries on the north side, and by an imposing façade in the Ionic style, from the designs of Sir Robert Smirke, the whole building being complete in 1847. Meanwhile, however, under the vigorous administration of Anthony Panizzi (an Italian refugee, who became keeper of the printed books in 1837), the library had been growing by leaps and bounds. Panizzi obtained from the government an annual grant of £10,000 to make good its deficiencies; rigorously enforced the Copyright Act, by which a copy of every book printed in the United Kingdom must be delivered to the museum within one month of publication; and, by his influence with the Right Hon. Thomas Grenville, procured the bequest (in 1847) of the magnificent Grenville library, a collection of 20,240 vols. As the books multiplied readers multiplied also, and, to provide room for both, in 1854 a plan of Panizzi's was accepted by which the quadrangle round which the galleries of the museum were built was to be occupied by a great circular reading-room, with a diameter of 140 ft. and a height of 106 ft., surrounded by galleries constructed entirely of iron, containing twenty-five miles of shelving, and accommodating about a million books. This building was opened in 1857, and both the circular reading-room and the iron 'bookstack' (in which the light admitted from a glass roof penetrates through the gaps between the railings which form the floors) have served as models for many similar constructions. By the subsequent invention of 'sliding' bookcases, which run forward from the face of the fixed ones, the miles of shelving (including those in the older parts of the library) were increased by the year 1900 to about forty-six, though the method of counting pamphlets only according to the volumes in which they are bound has restricted the official estimate to between 2,000,000 and 3,000,000 volumes.

Meanwhile other departments of the museum also grew rapidly, and as early as 1860 it was determined to move the natural history collections to South Kensington, where the site of the exhibition of 1862 was purchased the year after it closed. A new terra-cotta building, from the designs of Mr. Alfred Waterhouse, was begun in 1873, finished in 1880 (the main contract having been for £352,000), and opened the following year. The style is that known as Early Romanesque, modelled on that which was common in Lombardy and the Rhineland from the 10th to the 12th century. The frontage is 675 ft., the dimensions of the splendid hall, which forms the chief feature of the building, being 170 ft. long, 97 ft. wide, 72 ft. high, and the exhibition galleries 278 ft. by 50 ft.

The removal of the natural history collections from Bloomsbury left space there for the display of the ethnographical collections given by Henry Christy in 1865, and, with a bequest of £65,000 by William White (which, though made in 1823, only accrued on the death of his widow in 1879), the White Wing was built, jutting out from the south-east angle, and providing fine rooms for the display of pottery and glass, and prints and drawings. During the tenure of the chancellorship of the Exchequer by Sir William Harcourt (1892–4) the ground at the back of the museum was purchased on terms liberally offered by the Duke of Bedford, and the new

annexe which is in course of completion will be formally opened sometime during 1911.

The total annual grant in 1909–10, including that of the British Museum of Natural History, amounted to £198,478. The number of visitors to the parent museum in Bloomsbury in 1909 was 708,836, of whom 276,040 were students in the reading-room or other departments. The number of visitors to the Natural History Museum at South Kensington (including 61,465 on Sundays) was 535,116, of whom 20,068 were students. Both museums are opened free to the public every week-day except Good Friday and Christmas Day, and on Sundays from 2 p.m. till dusk. Admission to the reading-rooms and studies is granted to students over twenty-one years of age, on the written recommendation of a householder, sent at least two days previously. The recommendations of lodging-house keepers and hotel proprietors are not accepted.

Among the more notable of the special collections at the British Museum itself are the sculptures from the Parthenon at Athens (5th century B.C.), known as the Elgin marbles, removed to England by Lord Elgin in 1801–3, and purchased in 1816; the sculptures of the mausoleum at Halicarnassus, excavated in 1857; the Assyrian sculpture from the palace of Assur-nasir-pal (B.C. 885–860) at Nimrud; the bas-reliefs from Nineveh of the reigns of Tiglath-pileser III. (B.C. 745–737), Sennacherib (B.C. 705–681), and Assur-bani-pal (B.C. 668–626), and the cuneiform inscribed slabs which formed Assyrian books; the series of Egyptian sculptures ranging from B.C. 4000, and of mummies and objects found in their tombs; the exhibition of articles illustrating the different religions of the world; the collections of tools, weapons, ornaments, and dress of races in all the earlier stages of civilization in every continent; the mediæval antiquities, Roman remains in Britain, collection of gold ornaments, of coins and medals, and ancient Greek vases; lastly, the collections illustrating the history of books in manuscript and print, including autographs of many famous men and women.

Since 1909 important acquisitions have been added to the collection of MSS., coins, and antiquities. In the department of printed books eighty old English books have been added to the library, and include works from the presses of Julian Notary, Richard Pynson, Wynkyn de Worde, and Thomas Berthelet.

At the natural history museum the great hall is occupied by an 'introductory' collection illustrating the variation of animals under domestication; the adaptation of their colour to environment; the phenomena of albinism, melanism, etc. The western galleries are devoted to stuffed specimens of animals and to their skeletons, the eastern galleries to minerals and botany. Among other collections specially interesting to holiday visitors are the birds' eggs and the butterflies, and the Gould collection of humming-birds.

British New Guinea. See NEW GUINEA and PAPUA.

British North America Act, an act passed by the British Parliament (Mar. 29, 1867), providing for the voluntary union of the provinces of Canada, Nova Scotia, and New Brunswick into one confederation, under the title of 'The Dominion of Canada.' The British government at the same time guaranteed a subsidy of three millions sterling to complete the inter-colonial railway. By the British North America Act of June 29, 1871, the Parliament of Canada

may establish new provinces. The Dominion now includes the whole of British North America, except Newfoundland and the Bermudas.

British North Borneo. See BORNEO.

British Pacific Cable, opened for traffic on December 8, 1902. This 'all British' cable runs from Vancouver to Fanning I., thence to Fiji and Norfolk I., and by means of two cables to New Zealand and Queensland respectively. Total length, 7,838 nautical miles. The Telegraph Construction and Maintenance Company were the contractors, their tender being for £1,795,000. The governments of the United Kingdom, Canada, and Australasia have proportional interests in it—United Kingdom and Canada, five-eighteenths; New South Wales, Victoria, Queensland, and New Zealand, two-eighteenths each.

British Science Guild, founded in 1904 'to convince the people, by means of publications and meetings, of the necessity of applying the methods of science to all branches of human endeavour; to bring before the government the scientific aspects of all matters affecting the national welfare; to promote the application of scientific principles to industrial and general purposes; and to further scientific education.' Office: 199 Piccadilly, W.

British South Africa. See CAPE OF GOOD HOPE, BECHUANALAND, BASUTOLAND, RHODESIA, TRANSVAAL, ORANGE FREE STATE, and NATAL.

British South Africa Company, THE, was chartered on Oct. 29, 1889, through the efforts of Cecil Rhodes, who was its animating spirit. The company has great administrative powers in the region known as Rhodesia, being authorized to promote trade and commerce, and to work and develop mineral and other concessions over an area of about 750,000 sq. m. Dr. Jameson (now Sir L. S. Jameson, Bart.) was the administrator of the company's territories till the Transvaal Raid (1895-6), when he was succeeded by Earl Grey. The present administrator is Sir W. H. Milton. The president of the Board of Directors is the Duke of Abercorn. The authorized capital of the company amounts to £9,000,000. See RHODESIA, CHARTERED COMPANIES, and annual *Reports* of the company.

British Temperance League. See TEMPERANCE SOCIETIES.

British Weekly, THE, one of the leading religious newspapers in Britain, was founded in 1886 by Sir William Robertson Nicoll, who has always contributed a great deal to its columns in the form of sermons, essays, leading articles, and literary notes, the last written under the pen-names of 'Claudius Clear' and 'The Man of Kent.' As the organ of nonconformist opinion, the *British Weekly* takes a strong line on political questions, and was a determined opponent of Mr. Balfour's Education Act of 1902. It publishes a literary supplement, composed chiefly of book reviews by competent critics. Special editions are also published for Scotland and Ireland, containing the religious news of these respective countries. Among its contributors have been Mr. J. M. Barrie and 'Ian Maclaren.'

British West Africa. See GAMBIA, SIERRA LEONE, GOLD COAST, LAGOS, NIGERIA.

British West Indies. See WEST INDIES.

British Western Pacific. The High Commissioner for the W. Pacific has jurisdiction over all islands in the W. Pacific not within the limits of Fiji, Queensland, and New South Wales, or of any civilized power. The High Commissioner is governor of Fiji.

See FANNING, FIJI, GILBERT ISLANDS, ELLICE ISLANDS, PHŒNIX GROUP, PITCAIRN ISLANDS, SOLOMON ISLANDS, TONGA ISLES, and UNION OR TOKELAU ISLANDS.

British Women's Temperance Association. See TEMPERANCE SOCIETIES.

Britomartis, a Cretan divinity, daughter of Zeus and Carme; like Artemis, a virgin huntress. Minos loved and pursued her; to escape from him she threw herself into the sea, but was saved by Artemis, who made her a goddess. In Crete she had the surname Dictynna. Clearly she is Artemis under another form.

Briton Ferry, par. (1,593 ac.) and seapt., Glamorgan, Wales, at mouth of Neath R., 2 m. S.W. of Neath. The docks are in direct communication with Merthyr-Tydvil and Aberdare and the Rhondda Valley, and belong to the G.W.R. Coal mines; steel, tin, and iron works. Pop. 7,000.

Brittany, the English form of Bretagne, a former prov. of France (anc. *Armorica*), forming the deps. Ille-et-Vilaine, Côtes-du-Nord, Finistère, Morbihan, Loire-Inférieure. Brittany has always had a character of its own, which has been intensely reflected in its inhabitants. The Breton of our own days, either sailor, fisherman, or cultivator, is hardy, obstinate, a devout Catholic, and very frugal, but addicted to drink. The language spoken belongs to the Cymric division of Celtic, and is allied to Welsh. The climate of Brittany is temperate, but wet; the soil poor; the coast rugged, but with good harbours. Armorica was conquered by Cæsar in 57–56 B.C., but its pre-Roman history is little known, in spite of the profusion of megalithic monuments. In the 5th and 6th centuries it was invaded, partly settled, and Christianized from England and Ireland, and was thereafter called Britannia Minor. From the end of the 10th century to the middle of the 15th century Brittany was practically independent of the French kings, being governed by dukes—Geoffrey, son of Henry II. of England, and Geoffrey's son, Prince Arthur, being two of them. It was united to the French crown in 1532. See BRETON LANGUAGE AND LITERATURE; and La Moneraye's *Géographie Ancienne et Historique de la Bretagne* (1885), Le Braz's *The Land of Pardons* (1906), and Bell's *Picturesque Brittany* (1906).

Brittle-stars (Ophiuroidea), a class of the group Echinoderma, including star-shaped forms in which the arms are slender, and do not contain prolongations of the viscera, as in the starfish (Asteroidea). The adjective brittle refers to the tendency which the Ophiuroids display to throw off portions of the arms, these being regrown later. The arms are the agents in locomotion, which is performed by active wriggling, the tube-feet being devoid of suckers, and too small to be locomotor organs, as in the starfish. Other differences from starfish are the absence of an anus, and of an open ambulacral groove on the under surface. Common British forms are *Ophiothrix fragilis* and *Ophiopholis aculeata*.

Britton, JOHN (1771–1857), English antiquary, topographer, and miscellaneous writer, produced his first work, *The Adventures of Pizarro*, in 1799. In 1801 he began to edit the *Beauties of Wiltshire*, the third volume of which did not appear until 1825. Along with Brayley, he edited most of the *Beauties of England and Wales* (1801–15). His numerous works include *Architectural Antiquities of Great Britain* (1807–14), with a supplement, *Chronological Hist. (and Graphic Illustrations) of*

Christian Architecture in England (1818–26), and *Histories of Various Cathedrals* (14 vols. 1814–35). See his *Autobiography* (1850), and *Papers* (1856–7).

Britz, vil., dist. Potsdam, prov. Brandenburg, Prussia, 4 m. S. of Berlin. Pop. 10,000.

Brive (anc. *Briva Curretia*), tn., dep. Corrèze, France, on riv. Corrèze, 16 m. by rail S.W. of Tulle; stands in a fertile and lovely district; has manufactures of carpets, paper, and candles; trades in preserves, *pâté-de-foie gras*, geese, truffles, wine, and nuts. Pop. 21,000.

Brixen, tn., episc. see, and summer resort in Tyrol, Austria, in the Puster valley, 24 m. by rail N.E. of Bozen. Its cathedral, with two copper-roofed towers, dates from the 15th century. The bishopric was founded in the 4th century, and from 1179 to 1803 its bishop was a prince of the empire. Pop. 6,000.

Brixham, seapt., mrkt. tn., and par. (5,611 ac.), Devonshire, England, on Torbay, opposite Torquay. The town is the headquarters of the fishing industry of Torbay, and has a home for orphans of seamen. In the vicinity are iron mines and limestone quarries. A cavern, 600 ft. long, when explored in 1858, was found to contain bones of many animals now extinct in Britain, and flint implements. William of Orange landed here in 1688. Pop. 8,000.

Brixlegg, vil., Tyrol, Austria, near the river Inn, 20 m. by rail E.N.E. of Innsbruck; has important smelting works for silver and copper ores found in the neighbourhood, as at Rattenberg. Alt. 1,750 ft.; the village stands in a beautiful position, which makes it a favourite summer resort. Passion plays were represented here with great success in 1868, 1873, 1883. Pop. 1,200.

Brixton. See LONDON.

Briza, or QUAKING GRASSES, a small genus of plants belonging to the order Gramineæ, characterized by their short, broad, flat, several-flowered spikelets, hanging, in the British species, at the extremities of slender branches, and thus in constant motion in the slightest breeze. Only two species are indigenous, *B. media* and *B. minor*—the former a very common species on light limestone soils, the latter confined to a few localities in England, and frequently cultivated in gardens as an ornamental annual.

Broach (*Bharuch*), tn., 30 m. N. of Surat, near the mouth of the river Narbada, Gujarat, Bombay, India; was once an important port. English and Dutch factories were established here during the 16th century. Broach was taken by the British in 1772, ceded to Sindhia in 1783, and retaken by the British in 1803. It has an export trade in raw cotton, grain, and seeds. Pop. 43,000. The fertile and healthy district of Broach has an area of 1,467 sq. m., and a pop. of 290,000.

Broad Arrow, the cognizance of Viscount Sydney, Earl of Romney, who was master-general of the ordnance (1693–1702); first used in his day as the royal mark on government stores. To deface or obliterate this mark is felony; unlawful possession of goods so marked is punishable with forfeiture and a penalty of £20.

Broad Arrow, mining tn., W. Australia, 24 m. N.N.W. of Kalgoorlie. Pop. (dist.) 3,000.

Broadbent, SIR WILLIAM HENRY (1835–1907), English physician, was born and educated at Huddersfield. He afterwards studied at Owen's College, Manchester, and in Paris. He was physician in the London Fever Hospital and St. Mary's Hospital, London; President of the Medical Society of London, 1881; physician-in-ordinary to the Prince of

Wales (1892), physician-extraordinary to Queen Victoria (1898–1901), and physician-in-ordinary to the late King Edward VII. He was created a baronet in 1893, and acted as chief of the civil medical staff in S. Africa in 1899. He was the author of *An Index of Diseases* (3rd ed. 1883), *The Pulse* (1890), and *The Heart* (1897).

Broadhurst, HENRY (1840), English politician, born in Oxfordshire, was a stonemason, who became secretary of the Labour Representation League (1875). He was elected M.P. for Stoke-on-Trent (1880–5), for Bordesley (1885–6), for Nottingham (1886–92), for Leicester (1894–1906), and was appointed Under-Secretary of State for the Home Department (1886), and has served on a number of royal commissions (Housing of the Working Classes, Condition of Aged Poor, etc.). He promoted the Leasehold Enfranchisement Bill, and has written a *Handy Book on Leasehold Enfranchisement*, with Sir R. T. Reid (1885); and *The Story of my Life*, an autobiography (1901).

Broadmoor, asylum in Sandhurst par., Berks, England; was built in 1863, and has accommodation for 700 criminal lunatics.

Broads, THE, the low, flat district in Norfolk and Suffolk, but mainly in the former county, intersected by the lower courses of the rivers Yare, Bure, Ant, and Waveney, which unite near Yarmouth in Breydon Water. Connected with these rivers by 'dykes' are the 'Broads' proper—large, shallow lakes, surrounded by reedy swamps and reclaimed land. The main rivers are navigable by the Norfolk wherries, the 'Broads' by small craft drawing four feet. Most of the landscape is essentially Dutch in character. Fish and wild fowl are very plentiful. Yachting on the 'Broads' is a favourite holiday pastime. See Walter Rye's *A Month on the Norfolk Broads* (1887); Emerson and Goodall's *Life and Landscape on the Norfolk Broads* (1887); and Dutt's *The Norfolk Broads* (1903).

Broadsides. See CHAPBOOKS.

Broadstairs, eccles. par. and wat.-pl., Isle of Thanet, Kent, England, 2 m. N.E. of Ramsgate; brought into notice by Charles Dickens, whose residence here gave the title *Bleak House* to one of his novels. Sand for filters is exported. Pop. 6,500.

Broadsword. See FENCING.

Broadwater, par. (2,735 ac.) and vil., Sussex, England, 10 m. W. of Brighton. Near it is a very fine and well-preserved Roman camp (Cissbury). Famous for its market produce, a great quantity of which is grown under glass. In 1902 it was incorporated into the borough of Worthing.

Broadwood, JOHN, AND SONS, the well-known London firm of pianoforte-makers, founded in 1732 by Burkhard Tschudi, a Swiss, who came to London in 1718. John Broadwood (1732–1812), a native of Cockburnspath, Berwickshire, who married Tschudi's daughter, joined him as partner in 1769, and became sole proprietor in 1783. Several generations of Broadwoods carried on the business until it became a limited company.

Broadwood, ROBERT GEORGE (1862), British soldier, commanding troops in S. China since 1906. He went on active service in 1896 with the Dongola expeditionary force, and was present in the engagement at Firket and the operations at Hafir. The following year he took part, in command of the Egyptian cavalry, in the engagement at Abu Hamed and the occupation of Berber, and in 1898 was present at the battles of the Atbara and Khartum. He proceeded to S. Africa in February 1900, in command of the 2nd Cavalry Brigade. A month later

a mounted force under his command, which was crossing Thaba-Nchu, 38 m. E. of Bloemfontein, was compelled to retire, and in so doing a portion of the force was cleverly ambushed by General De Wet at Sanna's Post (Koorn Spruit). A convoy of six guns of U Battery and one gun of Q Battery Royal Horse Artillery, and over 200 men, were captured, together with a large quantity of baggage. Broadwood was engaged in the 'sweeping' operations in the north-eastern portions of the Free State in 1901, capturing General A. Cronje, General Wessels (Steyn's brother-in-law), and many other prisoners. In 1903 Broadwood was appointed colonel on the staff, and (1904-6) brigadier-general commanding the Bloemfontein district.

Broca, PIERRE PAUL (1824–80), French anthropologist, born at Sainte-Foy-la-Grande, Gironde, and died at Paris. He became (1853) professor of surgical pathology at Paris, and surgeon to the four great hospitals; founded the Anthropological Society of Paris (1859), and in 1876 a school of anthropology. He was made a member of the Legion of Honour (1868). A great master of anthropology, he devoted special study to craniology; founded *La Revue d'Anthropologie* (1872); and published many scientific works, including *Des Anévrismes et de leur Traitement* (1856), *Instructions Générales pour les Recherches Anthropologiques* (1865; 2nd ed. 1879); *Mémoires sur les Caractères Physiques de l'Homme Préhistorique* (1869); *Mémoires d'Anthropologie* (1871-83, 1888). Broca was one of the founders of the Association Française pour l'Avancement des Sciences (1872).

Brocade, a fabric with a pattern of raised figures, supposed to have been first manufactured in China. It is said that the word brocade was first applied only to stuffs of gold or silver threads, or of both in combination; but all mention of brocades occurring in early accounts is of cloths 'broched' or embroidered upon coloured grounds. Fairholt considers brocade to have been very rare on the Continent, even in the 14th century, and that it was probably not known at all in England as early as the 13th century. The word afterwards came to be applied particularly to metallic tissues, the manufacture of which is fully described by Porter in his work on *Silk Manufacture* (included in Dr. Lardner's *Cabinet Cyclopædia*, 1830–49). These were especially manufactured at Genoa, Florence, and Venice, as well as in Spain, in the 16th century. By degrees silk was introduced into this manufacture as a ground for ornaments of gold or silver threads, for which the name of brocade was still retained; and later silk was employed alone, so that the name came to apply to any material having a raised pattern.

Broccoli, a vegetable of Italian origin, was recognized as a distinct garden variety in Britain at the end of the 17th century. It is characterized by an artificial development of the flower stems and abortive flowers, as in its relative the cauliflower. A heavy loam is required for the plants; and as they are not perfectly hardy, losses occur in severe winters in cold localities. A succession may easily be provided, so that broccoli shall be available from Michaelmas till June. For this purpose seed of suitable varieties should be sown at intervals from April to June. For autumn and early winter, good sorts are the self-protecting autumn, the early white Cape, and Sutton's Michaelmas white. For midwinter the Penzance and superb early white are two of the best kinds, and for spring Carter's

champion, dwarf white, and late queen.

The ground should be somewhat heavy, and should be trenched to a depth of two feet, a liberal admixture of manure being afforded; the seed-beds also should be well dug. The seed should be sown thinly, and the young plants shifted at an early age. When moving them into their final quarters, at least two feet should be allowed from plant to plant. See G. Wythes's *Book of Vegetables* (1901).

Broch. Etymologically the same as *borough*, *burgh*, and *borg*, this term is applied in N.E. Scotland to an archaic round tower of a peculiar type, which is only found in Scotland, though there are various kindred structures in other countries. In the western and the Gaelic-speaking districts the words *dùn* (pronounced *doon*) and *caiseal* (*i.e.* 'castle') are employed. Brand (1700) describes them as 'round, in the form of some dovecotes, or something like unto an egg bulging out in the middle.' The maximum height of the brochs can only be guessed at nowadays, for most of them are absolutely ruined, and even the best preserved specimen —that on the island of Mousa, in Shetland—lacks some of its upper courses. From its present height (something over 40 ft.), however, one may estimate that no Scottish broch ever rose higher than 50 ft. The diameter of these towers, measured from the outside, is usually about 60 ft. at the base.

The chief peculiarities of the brochs are these:—They had no exterior windows whatever, and the only aperture in the outer wall was a small doorway at the base. When the door was closed and strongly barred, the tower was impregnable to the ordinary assault of primitive times. Nor could the besiegers ever hope to scale the walls, for the uppermost courses were made to project slightly outwards, like the overhanging rim of a jar. Sir Henry Dryden (1872) seems to dispute this; but Hibbert, writing fifty years earlier, when the tower at Mousa was more complete, emphatically asserts that the drawing of his predecessor Low (1774), which omits to show this feature, is 'in a most unaccountable degree faulty.' Hibbert therefore portrays that tower as he saw it; and his representation is here reproduced, as it probably gives the best general idea of what a broch was when complete.

The tower was quite roofless, and its interior was simply a hollow cylinder, devoid of any flooring, from the ground up to the summit. The rooms were all within the wall itself, which was of great thickness, often 15 ft. Except in its lowest story, which was solid save for an occasional chamber, this huge wall was split in two by successive tiers of low, narrow galleries circling all round it, and connected by a staircase which wound from base to summit. These galleries received light and air from one or more series of rectangular windows that, opening into the inner area or 'well,' rose one above another like a ladder; for only a stone slab divided each aperture from the other. Indeed, it is not unlikely that these slabs actually served as ladders. Thus, the only roofs in the building were those of the galleries, and of the mural chambers on the ground floor; and all these roofed portions were presumably used as sleeping-places by the broch-dwellers. The unroofed court or 'well'—which frequently had an actual well sunk beneath it—is believed to have been occupied by live stock during a siege. In some cases there is a difficulty in accepting this theory, owing to the lowness of

the entrance. The masonry of the brochs is of rudely-shaped, unmortared stone, and the only arch known to the builders was the 'false' arch.

The probable era of the broch-builders is believed by Dr. Joseph Anderson to be 'not earlier than the 5th and not later than the 9th century.' Bishop Tulloch of Orkney, writing in 1443, states that when Harald Haarfagr, king of Norway, invaded the Orkneys in the 9th century, he there found the Picts, whom Tulloch describes as a dwarfish race, occasionally living in little underground houses, and at other times working diligently at their 'cities'—*i.e.* brochs. The broch of Mousa is known to have been temporarily inhabited by Norsemen in the end of the 9th century, and again in the middle of the 12th century. The dun of Carloway, in Lewis, is said to have been similarly occupied in the end of the 16th century.

The number of ascertained brochs in Scotland may be estimated at between four hundred and five hundred, the majority having been situated in the northern parts. The keep of Conisborough in Yorkshire, although much more finished in style, is believed to be an improved variant of a pre-existing broch in that locality. The round towers of the aborigines of Colorado, U.S.A., of which ruins only remain, were essentially the same as the brochs of Scotland. See vol. v. of *Archæologia Scotica* (1890); and compare also ROUND TOWERS.

Bröchner, HANS (1820–75), Danish philosopher, who taught at the University of Copenhagen, though only from 1870 as professor. His first considerable work was a treatise on Spinoza (1857); others were *Bidrag til Filosofiens Historiske Udvikling* (1869), and *Filosofiens Historie i Grundrids* (1873–4).

Brochure. See PAMPHLET.

Brock, THOMAS, English sculptor, was born at Worcester (1847). After carrying off the highest honours at the Royal Academy's schools, he became a pupil of J. H. Foley, R.A., the leading opponent of the then prevailing formalism in sculpture, and afterwards his assistant. On his master's death, in 1874, Brock was commissioned to complete his O'Connell monument for Dublin, his statue of Lord Gough, also for Dublin, and his statue of Lord Canning for Calcutta. In 1883 he was elected A.R.A., and in 1891 he became an academician. Among his portrait-busts and statues may be mentioned a bronze bust of Lord Leighton (1873), his diploma work; a marble bust of Queen Victoria (1901); a statue of Sir Richard Owen; the equestrian statue, the *Black Prince*, at Leeds; the monument to Lord Leighton in St. Paul's Cathedral; and the Longfellow bust in Westminster Abbey. In 1901 he was commissioned to execute the sculptural *motif* of the National Memorial to Queen Victoria. Of his purely ideal work typical examples are *The Genius of Poetry* (1891), *Song* (1891), and *Eve* (Tate Gallery), *Hercules Strangling Antæus*, and a large equestrian group, *A Moment of Peril*, purchased for the nation under the Chantrey bequest. His conception is noble, his feeling for form strong, and his work always broad in treatment, gracefully proportioned, and architectural in character.

Brocken, or BLOCKSBERG (anc. *Mons Bructerus*), the central summit of the Harz Mts., Germany, is 3,747 ft. high, and is situated 20 m. S.W. of Halberstadt. A railway was carried in 1898 to the top, where there is a meteorological station. The 'spectre' of the Brocken is caused by shadows falling upon a wall of mist at sunset. The Brocken was one of the

last strongholds of the heathen faith of the ancient Germanic peoples: the night of the first of May (Walpurgis night) was specially dedicated to the rites of the ancient worship; hence the legend of the Brocken as the scene of unholy glee and unlicensed revelry (the Witches' Sabbath) on that night, and hence, too, the intimate association in the popular mind of this mountain with the devil. See Goethe's *Faust*.

Brockes, BARTHOLD HEINRICH (1680–1747), German poet, born at Hamburg, where, returning in 1704 after a journey in Europe, he was elected to the senate; after carrying out several missions—as that to Vienna (1721), and to Copenhagen (1724)—he was in 1735 appointed for a period of six years bailiff at Ritzebüttel, and there composed *Landleben zu Ritzebüttel*. His principal work is *Irdisches Vergnügen in Gott* (9 vols. 1721–48), a collection of poetical and religious meditations. He also translated into German Pope's *Essay on Man* (1740) and Thomson's *Seasons* (1745). His *Autobiography* was published by Lappenberg in the *Zeitschrift des Vereins für Hamburgische Geschichte* (vol. ii. 1847). See *Life* by Brandl (1878).

Brockhaus, FRIEDRICH ARNOLD (1772–1823), born at Dortmund in Westphalia; founder of the well-known German publishing house. He started business in 1802, but removed to Altenburg in 1810, before which date he had purchased the *Konversations-Lexikon* of Löbel. He issued a new edition of that work in 1812, which made both his reputation and his fortune. He removed to Leipzig in 1817, and added to his publishing trade that of bookseller, in which he was equally successful. In his enterprise he was ably assisted by his son HEINRICH (1804–74), who, in conjunction with his father and Avenarius, in 1837, established, at Paris and Leipzig, a library of German and foreign literature, which was carried on till 1844. HERMANN (1806–77), another son of F. A. Brockhaus, became a learned Oriental scholar, studying Indian literature in the German colleges, as well as at Copenhagen, Paris, London, and Oxford, and subsequently occupied the chair of Indian literature at Jena (1839) and at Leipzig (from 1841). He edited and translated many Sanskrit works.

Brockmann, JOHANN FRANZ HIERONYMUS (1745–1812), Austro-German actor; born at Graz. In 1766 he obtained an engagement at a theatre in Vienna, but moved in 1771 to Hamburg, where, under the direction of Schröder, he became the foremost actor of his day in Germany. His greatest triumph was achieved in 1777 in Berlin, in the rôle of Hamlet.

Brockram ('broken rock'), a term locally applied to certain breccias belonging to the Permian system, and found at Penrith, Appleby, and elsewhere in that part of England. They appear to have been originally angular broken material which accumulated on the shores of the New Red Sandstone lakes. The fragments consist mainly of dolomitized Carboniferous Limestone; but pieces of Red Sandstone are quite common, suggesting a certain amount of contemporaneous erosion.

Brockton, city, Plymouth co., Massachusetts, U.S.A., 20 m. s. by w. of Boston, on the New York, New Haven, and Hartford Ry. Shoemaking is its principal industry, but rubber goods, paper boxes, sewing machines, and pianos are also manufactured. Pop. 57,000.

Brockville, town and port of entry, Leeds and Grenville co., Ontario, Canada, 126 m. s.w. of

Montreal, on l. bk. of the St. Lawrence, on Grand Trunk and Canadian Pacific Rys.; is a port of call for St. Lawrence steamers. Manufactures agricultural implements, and has tanneries and flour mills. Pop. 9,000.

Brod, tn., Hungary (Croatia-Slavonia), co. Pozsega, on the l. bk. of the Save, 40 m. S.W. of Eszek (Essegg). It is strongly fortified. Pop. 6,500.

Brodfeld, a plain of Hungary, Hunyad co., 15 m. S.W. of Karlsburg; famous for the battle in which Stephen Bathori defeated the Turks in 1479.

Brodick, seaside village, Arran, Buteshire, Scotland, 14 m. W.S.W. of Ardrossan; a summer resort. Pop. 300. Brodick Castle is the chief Arran residence of the Hamilton family.

Brodie, SIR BENJAMIN COLLINS (1817–80), chemist, became professor of chemistry at Oxford (1855), and was president of the Chemical Society (1859–60). His name is associated with researches into the nature of graphite, and of that modified form of carbon present in graphite for which he proposed the name *graphon.*

Brodie, WILLIAM (1815–81), Scottish sculptor; born at Banff; studied at Edinburgh and Rome. His best-known works are *The Blind Girl; Rebecca; Ruth; Sunshine; The Maid of Lorn; Memory;* four busts of *Queen Victoria* (one at Balmoral); statue of *Prince Consort* at Perth, of *Sir James Young Simpson, Sir David Brewster,* and *Lord Cockburn* at Edinburgh, and of *Hon. George Brown* at Toronto, Canada.

Brodie, WILLIAM (d. 1788), burglar, was the son of Francis Brodie, a large cabinetmaker in the Lawnmarket, Edinburgh. In 1787 Brodie, who was one of the deacon councillors of the city, with three men, George Smith, Andrew Ainslie, and John Brown, committed many robberies in Edinburgh, and on March 5, 1788, broke into the Excise Office in Chessel's Court, Canongate. Under sentence for another crime, Brown turned king's evidence. Brodie fled, but was arrested at Amsterdam, tried along with Smith, Aug. 27, 1788, and hanged on October 1. *Deacon Brodie,* a play by R. L. Stevenson and W. E. Henley, is founded on his life.

Brodrick, WILLIAM ST. JOHN. See MIDLETON, VISCOUNT.

Brody, tn. in the E. of Galicia, Austria, 53 m. by rail E.N.E. of Lemberg; has considerable trade with Russia. Pop. 18,000.

Brodzinski, KAZIMIERZ (1791–1835), Polish poet; born at Królówka, Galicia. He joined the French army (1809), fought in the Russian campaign (1812–13), and was taken prisoner at Leipzig. He afterwards became (1822) professor of æsthetics at Warsaw University till its suppression (1831). His most important work is the idyll *Wieslaw* (1820). A collected edition of his works was published in 8 vols. in 1872–4.

Broek-in-Waterland, vil., prov. N. Holland, Netherlands, 6 m. N.E. of Amsterdam; formerly proverbial for its excessive cleanliness. Its chief occupation is dairy-farming. Pop. 1,600.

Broglie, the name of a noble French family, originally from Piedmont; they were part founders of the city and republic of Chiari, in Lombardy. (1.) FRANÇOIS MARIE DE BROGLIE (1610–56) was the first to establish himself in France (1643); was naturalized in 1650, and had the title of comte. (2.) FRANÇOIS MARIE, DUC DE (1671–1745), marshal of France, grandson of (1); born at Paris; distinguished himself in several campaigns in Flanders, on the Rhine, and in Italy between 1689 and 1714. From 1724 to 1731 he was ambassador in London. Created a marshal in 1734, he made the campaign of Italy

(1733), and was commander-in-chief of the French army in Bohemia (1741). In 1742 he was created duke. (3.) VICTOR FRANÇOIS (1718–1804), son of (2), born at Münster, in Westphalia. At an early age he took part in the campaign of Italy under his father, and afterwards fought in Bohemia. In the Seven Years' war he greatly distinguished himself as a French general, took part in the battles of Rossbach (1757), Sondershausen (1758), and Bergen (1759), and for this last victory was made a prince of the empire and marshal of France, as well as commander-in-chief of the French army in Germany. Although victorious at Korbach (1760), he was defeated at Willingshausen (1761). At the beginning of the revolution Louis XVI. made him minister of war; but he was forced to emigrate to Germany, and commanded the emigrants in Champagne (1792). Afterwards he entered into the service of England (1794) and of Russia (1797). (4.) CHARLES FRANÇOIS, COMTE DE (1719–81), brother of (3); diplomatist. Sent as ambassador to Warsaw in 1752, he combated the growing Russian influence in Poland, and at the same time endeavoured to pave the way for the election of the Prince of Conti as king of Poland. Then he took part in the Seven Years' war under his brother, and distinguished himself at Cassel (1761). After the war he became the head of the so-called secret cabinet of Louis XV. Broglie's activity centred round the prevention of the partition of Poland; he also prepared a scheme for the invasion of England. See Jacques Victor Albert, Duc de Broglie's *Le Secret du Roi* (1878). (5.) VICTOR CLAUDE, PRINCE DE (1757–94), son of (3); born at Paris. He was elected to the States-General in 1789, passed into the National Assembly, embraced the revolution, and was employed with the Rhine army. He was, however, discharged in 1792, and was condemned to death by the revolutionary tribunal in 1794. (6.) MAURICE JEAN MADELEINE DE (1766–1821), brother of (5); bishop of Ghent. At the outbreak of the revolution he took refuge in Russia; in 1803 Napoleon made him his almoner, and in 1807 bishop of Ghent; but he fell into disgrace in 1811, through his opposition to Napoleon's policy with regard to the institution of bishoprics. Reinstated in 1814, he refused to take the oath of allegiance to William I., the new king of the Netherlands, because he was a Protestant. Thereupon Broglie, threatened with prosecution, fled to France (1816), but was condemned to transportation *in contumaciam.* (7.) ACHILLE CHARLES LÉONCE VICTOR, DUC DE (1785–1870), statesman and author, son of (5); born at Paris. In 1809 he was appointed by Napoleon to the Council of State, in which quality he served on several diplomatic missions. In 1816 he married the daughter of Madame de Staël. In 1830 he was a member of the first cabinet of Louis Philippe, in 1832 minister of foreign affairs, and in 1835 premier, when he negotiated with England the abolition of slavery. His policy towards England was one of peace and friendship. He resigned in 1836, and in 1847–8 was for a short time ambassador in London. In 1851 he retired from political life and devoted himself to literature, becoming a member of the Academy in 1856. Among the books he wrote (not all published yet) are *Vues sur le Gouvernement de la France* (1861), *Ecrits et Discours* (3 vols. 1863), *Le Libre Echange et l'Impôt* (1879), and *Souvenirs* (4 vols. 1885–8). See a monograph

by Guizot (1872). (8.) JACQUES VICTOR ALBERT, DUC DE (1821-1901), French statesman and author, eldest son of Louis Philippe's minister of that name. During the second empire he produced *Etudes Morales et Littéraires* (1853), a history of *L'Eglise et l'Empire Romain au IV. Siècle* (1856-66), a searching pamphlet on *The Maladministration of Algeria* (1860), *Souveraineté Pontificale et la Liberté* (1861), and *La Liberté Divine et Humaine* (1865). In 1871 he was elected to the National Assembly by the department of the Eure, and was appointed ambassador to London; but finding himself made the unwilling instrument of the abrogation of the Anglo-French commercial treaty of 1860, he resigned his post in 1872. He now became leader of the Conservative right centre, and in that capacity moved the order of the day which led to the resignation of Thiers and the acceptance by Marshal Macmahon of the presidency of the republic. The duke then became minister of foreign affairs and president of the Council; but his policy being strongly condemned by Gambetta, he resigned in May 1874. Elected to the Senate in 1876, in the following year he formed a royalist and imperialist cabinet, in which he became president of the Council and minister of justice. By various reactionary measures he again sought to overthrow the republic; but Gambetta forced him to resign. The last twenty-five years of his life were chiefly occupied in historical writing, notably *Le Secret du Roi* (1878), a valuable collection of state papers relating to the reign of Louis XV., and memoirs of Frederick II. (1882-4), Maria Theresa (1882-8), his father (1886), and Talleyrand (1891). Others of his publications relate more specially to members of his own family, others to men such as Malherbe (1897) and Voltaire (1898), and others (*Le Père Lacordaire*, 1889, and *Saint Ambroise*, 1899) are connected with the history of the church. See Fagniez's *Le Duc de Broglie* (1902); *Généalogie de la Branche Française de la Maison de Broglie, 1610-1885* (anonymous, 1885); Boutaric's *Correspondance Secrète de Louis XV.* (2 vols. 1866); Doniol's *Histoire de la Participation de la France à la Constitution des Etats-Unis* (3 vols. 1887-9); Thureau-Dangin's *Histoire de la Monarchie de Juillet* (4 vols. 1884-7).

Brogue (Gael. *brog*), a shoe of coarse hide or deerskin, formerly worn by the Celtic races in Scotland and Ireland. The word also designates a dialectical pronunciation, and is usually applied to the Irish mode of pronouncing English.

Broich, tn., Rhenish Prussia, 15 m. N. by E. of Düsseldorf; has various manufactures and railway works. Pop. 8,000.

Broke, SIR PHILIP BOWES VERE (1776-1841), English rear-admiral, was present at the siege of Bastia, and at Hotham's two actions in 1795, as well as at the action with the *Vestale*, and at the battle off Cape St. Vincent in 1797. In 1798 he took part in Warren's engagement with Bompart. On June 1, 1813, in the *Shannon* he fought the United States frigate *Chesapeake*, and, after a hot action, obliged the enemy to surrender. Broke, who was severely wounded, was created a baronet (1813), and in 1815 was made a K.C.B. He reached the rank of rear-admiral in 1830. See *Life* by Brighton (1866).

Broken Hill. (1.) Town, New South Wales, 925 m. W. of Sydney, and 260 m. N.E. of Adelaide, S. Australia. A fine town, Broken Hill has one of the most prolific silver mines in the world (the Proprietary), employing over 4,000 hands. Pop. 28,000. (2.) Gov.

station, North-Eastern Rhodesia, 374 m. by rail N.N.E. of the Victoria Falls on the Zambezi. Lead and zinc are found.

Broker, an agent for negotiating sales and purchases of goods or other property. Unlike a factor, he does not have possession of goods in respect of which he may be making contracts, nor can he sue on these contracts in his own name. Where he acts for a named principal, no personal liability attaches to him; and even where his principal is unnamed, he is only liable if there is a custom in the particular trade imposing this liability upon him. If, however, a broker, although in reality acting as an agent, does not purport to do so, personal liability attaches to him. He has an implied authority to buy and sell according to the custom of the market in which he deals. He is entitled to the customary remuneration for the work he performs, and to be indemnified by his principal against all liability properly incurred by him. (For stockbroker, see STOCK EXCHANGE.) An insurance-broker is generally an agent who effects policies of marine insurance. A bill-broker is not an agent but a principal. He buys bills at a discount, borrowing money at interest, and makes his profit on the difference between the discount and the interest. See W. Bowstead's *Digest of the Law of Agency* (1898), and Brodhurst's *Law and Practice of the Stock Exchange* (1897).

Bromberg, tn., Prussia, prov. of and 65 m. N.E. of Posen. The town, which has considerable industry in the production of machinery, vehicles, paper, with iron foundries, flour mills, tanneries, breweries, distilleries, brick works, and market-gardening, owes its importance to the construction of the Bromberg Canal—17 m. long, connecting the Warthe (Oder) with the Brahe (Vistula)—by Frederick the Great in 1773-4. Pop. 54,000.

Brome, RICHARD (d. 1652), dramatist, was probably of humble birth. In 1614 he was 'man' or servant to Ben Jonson. He took to dramatic writing, collaborating with the younger Jonson in a lost comedy, *A Fault in Friendship* (1623), and with Thomas Heywood in *The Late Lancashire Witches* (1634). Of his independent plays, which include romantic and real life comedies, *The Northern Lass* (1632), *The Antipodes* (1640), and *A Joviall Crew* (1652) are the best known. Brome's notion of comedy was founded on Ben Jonson's 'Humours.' See *Collected Works*, ed. Pearson (1873).

Bromeliaceæ, a natural order of monocotyledonous plants, entirely confined to America, and abounding chiefly in the tropical and southern portions of that continent. The order contains about five hundred species, nearly all of which are herbaceous plants, with short stems crowned by rosettes of long, leathery leaves, which not unfrequently exhibit a grayish appearance, owing to the small hairs with which they are clothed. The flowers are borne on terminal spikes, and are often large and brightly coloured, though without scent. Many of the species are epiphytic, and attach themselves to tall trees by means of aerial roots, without, however, obtaining from them any food material. Such, for example, is the tree-moss of tropical America (*Tillandsia usneoides*), which by the mere luxuriance of its growth often proves fatal to the trees on which it lives; it is frequently employed as a substitute for horsehair in stuffing cushions. A number of species also grow in clefts on rock faces, where there is little or no soil; while others, like the pineapple (*Ananas sativa*), root in the usual manner.

Bromides. See MATERIA MEDICA, and next article.

Bromine (Br, 79·96) is an element of the halogen group, and has been known since 1826, but was not prepared in any quantity till 1830. It is present, in traces, in sea-water, but is usually obtained from the mother liquor of the Stassfurt potash beds, in which it is present as magnesium bromide. The bromine, which is present to the extent of about 0·25 per cent. in the liquor, is displaced by chlorine, either produced separately and added to the bromide solution, or else prepared in a still along with the bromide by the action of sulphuric acid and manganese dioxide on the chloride of magnesium present. The former plan is the better, as it can be worked continuously, and is carried out by making the liquor trickle down a tower packed with earthenware balls, where it meets a mixture of steam and chlorine that is passed up. As a consequence bromine is displaced ($MgBr_2 + Cl_2 = MgCl_2 + Br_2$), and passes out in vapour at the top of the tower into a worm surrounded by cold water, by which it is condensed to the liquid form and collected. Bromine is a heavy (sp. gr. 3·2), mobile, reddish-brown liquid; it is the only liquid non-metallic element. It boils at 59° C., and gives off a dark-red gas; also readily volatilizing at ordinary temperatures. The gas has a strong, disagreeable odour, similar to that of chlorine, and has a most irritating effect on the eyes. It is somewhat soluble in water, and readily so in carbon disulphide, forming in both cases a red solution. Chemically, bromine is less active than chlorine, but more so than iodine. Thus, it unites with hydrogen to form hydrogen bromide when the mixture of gases is set on fire, or if heated and exposed to light, forming a fuming gas. (See HYDROBROMIC ACID.) It also unites vigorously with most metals, phosphorus, sulphur, etc., and has some bleaching action. It produces painful sores if spilled on the skin, and has been used—though not to a great extent on account of expense—as a disinfectant. It is chiefly employed for the preparation of its compounds, which are largely used in photography and medicine, in the manufacture of coal-tar dyes, etc. The present production of bromine is about 400 tons per annum, though this could be greatly increased were the demand greater.

The bromides chiefly used in medicine are those of potassium, sodium, and ammonium. The average dose of each is from five to thirty grains. Bromides are powerful depressants of the nervous system, and hypnotics. They affect the circulation by lessening the force and frequency of the heart-beat. Toxic doses produce a fall of temperature. They are largely used in nervous diseases for their sedative and hypnotic effect, and are the most valuable drugs at present known for the treatment of epilepsy. Large doses are used, in combination with chloral, for delirium tremens. If bromides are taken, symptoms of poisoning, called 'bromism,' may appear. The first symptom is a rash of red acne-like papules on the face and back, next a lowering of the sensitiveness of the skin, then a diminution of sexual power. The individual becomes low-spirited, easily fatigued, unfit for work, his intellect is dulled, and in bad cases this may pass into dementia, melancholia, and other mental disorders.

Bromley, par., bor., and mrkt. tn., Kent, England, 10 m. S.E. of London. Francis Atterbury,

bishop of Rochester, resided here, and Dr. Johnson's wife is buried in the church of St. Peter and St. Paul. Near it is Chiselhurst. Pop. 33,000.

Bromoform ($CHBr_3$) is the bromine analogue of chloroform. It is prepared by similar methods to chloroform, and is a very heavy liquid (sp. gr. 2·8; m.p. 7–8° C. and b.p. 151° C.), which is insoluble in water, and turns red in the light from separation of bromine. It is used as a heavy liquid, for separating and determining the density of minerals, and also to a slight extent in medicine.

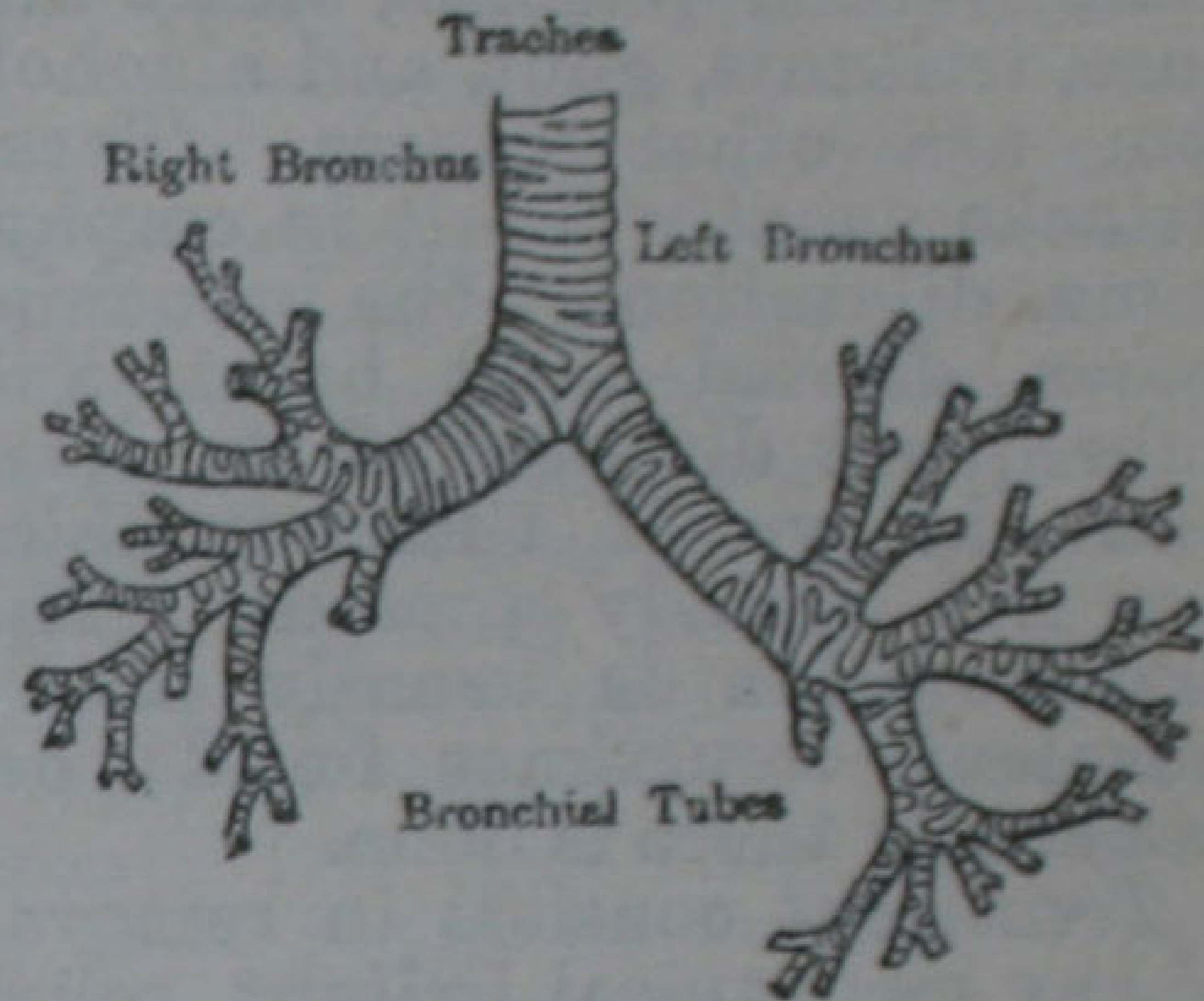
Brompton. See LONDON.

Brömsebro, a small hamlet on the E. boundary of Småland and Blekinge, Sweden, 30 m. S.W. of Kalmar, till 1650 the boundary between Denmark and Sweden. Here treaties of peace were signed between these countries in 1541 and 1645.

Bromsgrove, par. (11,302 ac.) and mrkt. tn., Worcestershire, England, 13 m. S.W. of Birmingham. The chief industry is the manufacture of nails, cloth, and buttons. The Midland Railway Company has works here. The grammar school was founded by Edward VI. in 1553. Birmingham sanatorium stands in the northern part of the parish. Pop. 8,500.

Bromwich. See WEST BROMWICH.

Bronchi, BRONCHITIS, BRONCHIECTASIS, etc. The windpipe divides into the right and the left bronchus opposite the fifth dorsal vertebra. The right bronchus is about one inch, and the left nearly two inches in length; they lead from the trachea to the right and left lung respectively. The bronchi are tubes of fibro-elastic membrane, within the layers of which are embedded a series of cartilaginous rings, which go round about two-thirds of their circumference, the interval between the rings being bridged over by the fibrous membrane in which they are enclosed. Within the tube, at the back, is a layer of unstriped muscular fibres, which extend transversely between the cartilaginous rings to which they are attached. Outside these are a few longitudinal bundles; and beneath the mucous membrane is a distinct layer of unstriped muscle, the *muscularis mucosa.* Lining the tube is the mucous membrane, covered with ciliated epithelium. On entering the lungs the bronchi divide and subdivide into smaller branches or bronchioles, which penetrate into every part, until at length they end in the small subdivisions of the lungs called lobules. As the subdivisions become smaller and their walls thinner, the cartilaginous rings become scarcer and more irregular, until, in the bronchioles, they are represented only by minute and scattered cartilaginous flakes.



The Bronchi.

BRONCHITIS is inflammation of the bronchial mucous membrane, with cough, preceded by a rigor, and followed or accompanied by more or less fever, alteration of the voice, soreness of the chest, and subsequent expectoration of cell-containing mucus, often purulent. When the ultimate divisions of the bronchial tubes in the whole or part of the lungs

are inflamed, the disease is called capillary bronchitis, which is commoner in children than in adults. There are fever, flushed face, hacking cough, dyspnœa. Chronic bronchitis usually results from neglected acute attacks, so that a bronchial attack comes on every winter, each worse than the last. Emphysema, phthisis, heart disease, irritants, gout, and alcoholism are other causes. These attacks usually result in emphysema, dilatation of the bronchial tubes, dilated right heart, and subsequent disorder of the liver and kidneys, if these troubles are not already present. The expectoration is usually mucopurulent, sometimes fœtid; occasionally there is none.

Treatment consists in removal of any mechanical irritant, relief of any pre-existing disease, inhalations of warm, moist, soothing air (*e.g.* from a bronchitis kettle), stimulants, counter-irritation, the use of expectorants (such as carbonate of ammonia, ipecacuanha, potassium iodide, and squills), and, in severe chronic cases, residence in a dry, warm, equable climate, such as that of the Canaries. When accumulation of phlegm threatens asphyxia, the inhalation of vapour of turpentine is strongly recommended. Foreign bodies in the bronchi are dealt with under TRACHEA.

BRONCHIECTASIS is the morbid dilatation of one or more bronchi, accompanied by occasional coughing up of offensive purulent or muco-purulent sputum. It may be confounded with a tuberculous cavity, but the tubercle bacillus will not be found in the sputum; temperature, though often above normal, is not likely to be as high as in tubercle; night-sweating is less severe; and the course of the disease tends to be more chronic.

Treatment is on the lines of antisepsis, and that most strongly advocated for the average case is by the daily use of creosote vapour baths. The operation of removing portions of ribs (resection) and incising the lung to empty the dilatation is sometimes performed.

BRONCHOCELE. See GOITRE.

BRONCHOPHONY, the effect produced on the voice sounds, when heard through the stethoscope, in cases of consolidated lung—*e.g.* pneumonia. The sound is as if the patient were speaking directly into the stethoscope.

Bröndsted, PETER OLUF (1780–1842), Danish scholar, born at Fruering, near Horsens, in Jutland. Between 1810 and 1812 he excavated the buried art treasures of Greece. He became professor of philosophy in Copenhagen in 1813, and, after further travels, superintended in Paris the publication of his writings. His chief work, *Travels and Researches in Greece*, appeared simultaneously in French and German (1826–30).

Brongniart, ALEXANDRE (1770–1847), French naturalist, mineralogist, and geologist, the friend of Cuvier, was born at Paris. After serving as druggist in the army, and as mining engineer, he became in 1800 director of the Sèvres porcelain manufactory, in 1818 chief engineer of mining, and in 1822 professor of mineralogy. Among his numerous works were studies on the geology of the environs of Paris (with Cuvier, 1811; 3rd ed. 1835); on the geology of the Apennines and Alps (1821–2), and of Sweden (1828); *Tableau des Terrains qui composent l'Ecorce du Globe* (1829); and *Traité des Arts Céramiques ou des Poteries* (1844; 2nd ed. 1854).—His son, ADOLPHE THÉODORE (1801–76), was appointed professor of botany at the Jardin des Plantes, and was the pioneer in France of the study of vegetable physiology, and author of a treatise on vegetable fossils (1828–37).

Broni, tn., prov. Pavia, Italy, 23 m. w. of Piacenza. Here Prince Eugene defeated the French in 1713. Pop. 6,800.

Bronkhorst Spruit (Du. *spruit*, a 'rivulet' or 'tributary stream'), 40 m. s. of Pretoria, in the Transvaal, was the scene of a treacherous Boer ambush in the war of 1880, when a British detachment of 250 men was shot down before the declaration of war.

Bronn, HEINRICH GEORG (1800–62), German naturalist and botanist, was born at Ziegelhausen, near Heidelberg. He was professor (1828) of natural history and director of the geological and zoological collections of Heidelberg University. Of his numerous writings, which are mainly geological, the chief are *Lethæa Geognostica* (1837–8; new ed. 1876), *Geschichte der Natur* (1841–9), and *Allgemeine Zoologie* (1850).

Bronte, a mrkt. tn., prov. Catania, Sicily, on the w. slope (2,600 ft.) of Mt. Etna, 32 m. N.W. of Catania, is surrounded by chilled lava-flows. Pop. 20,000. It gave the title of 'duke' to Nelson, to whom Ferdinand IV. of Naples granted it (1799), and also the estates belonging to the former Benedictine monastery of Maniacium (5 m. N. of Bronte), founded in 1174. Here the Greek general Maniaces, with Norman help, defeated the Saracens in 1040.

Brontës, THE. Charlotte Brontë, afterwards Nicholls (1816–55), was one of the six children of Patrick Brontë, an Irishman, who began life as a handloom weaver, but at sixteen became a teacher, and proceeded in 1802 to St. John's College, Cambridge. Leaving Cambridge, Patrick Brontë became incumbent of Thornton, near Bradford, in 1815. In 1820 he became perpetual incumbent of Haworth, near Keighley, where he remained until his death, in 1861. At Thornton, on April 21, 1816, Charlotte Brontë was born, her only brother, Patrick Branwell Brontë, being born there also, in July of the following year; a younger sister, Emily Jane, on July 30, 1818; and the youngest child, Anne, on Jan. 17, 1820.

In January 1831 Charlotte Brontë was sent to school at Roe Head, near Huddersfield, her schoolmistress being Margaret Wooler. Here she gained the friendship of Ellen Nussey (1817–97) and Mary Taylor (1817–93), two friends with whom she regularly corresponded until her death, and whom she frequently visited in their homes — Ellen Nussey at Birstall, and Mary Taylor at Gomersal. Charlotte Brontë left Roe Head in 1832. In 1835 Branwell went to London, ostensibly to study art; and Charlotte, then little more than nineteen years of age, returned to Margaret Wooler's school at Roe Head as a teacher. Emily accompanied her as a pupil, but home-sickness compelled the almost immediate return of the latter, and Anne took her place at Roe Head. In January 1837 Margaret Wooler's school was removed from Roe Head to Dewsbury Moor, three miles distant, and here Charlotte and Anne remained until May 1838. A little earlier Emily had gone as teacher to a school at Law Hill, Southowram, near Halifax; but after less than six months of uncongenial work, she returned to Haworth in a state of great bodily prostration.

In June 1838 Charlotte received an offer of marriage from the Rev. Henry Nussey, the brother of her friend Ellen, whose character is probably presented in the St. John of *Jane Eyre*. She refused him, and a few months later we find her as nursery governess to Mrs. Sidgwick at Stonegappe, Yorks; while Anne occupied the same position to a Mrs. Joshua

Ingham at Blake Hall, Mirfield.

After some months at home Charlotte took up a second situation as governess with a Mrs. White at Rawdon, Yorks. But here again her temperament and environment did not admit of much happiness, and negotiations were soon entered into to persuade the aunt to advance some money to permit of Charlotte and Emily obtaining a competent knowledge of French on the Continent. The school of a Madame Héger, in the Rue d'Isabelle, Brussels, being decided upon, in February 1842 the two girls took up their residence with the Hégers. The husband of the schoolmistress, Professor Héger, it is generally understood, largely did duty afterwards for the portrait of Paul Emanuel in *Villette*.

Charlotte remained at the Brussels *pensionnat* until January 1844, Emily having returned to Haworth in October 1842. Anne meanwhile remained as governess at Thorpe Green, in the house of a clergyman named Robinson, where Branwell also was pupil teacher. In 1846, however, all three sisters were back at Haworth, and in that year published a joint volume of poems under the title of *Poems by Currer, Ellis, and Acton Bell*. The book naturally excited but little attention, only two copies being actually sold, although brief reviews appeared in the *Athenæum* and other publications.

Notwithstanding this discouragement, all three sisters then, apparently for the first time, acknowledged to one another that they had each written a story—Charlotte one under the title of *The Professor;* Emily, *Wuthering Heights;* and Anne, *Agnes Grey*. The stories of the two younger sisters appeared simultaneously in December 1847.

The Professor—originally called *The Master*—was rejected, but with a request that a longer novel in three volumes, then in progress, to which Charlotte had referred in submitting *The Professor*, might be forwarded for consideration. The result was the dispatch of *Jane Eyre*, which was published in October 1847. The story was an instant success, and completely altered the trend of Charlotte Brontë's life, for it brought her into correspondence with Smith Williams, George Smith, Thackeray, Miss Martineau, and a number of other people well known in the literary world. In 1848 Anne Brontë published a second work in three volumes, *The Tenant of Wildfell Hall*, by Acton Bell.

On Sept. 28, 1848, Branwell Brontë died. His career had been an unfortunate one. He had in turn occupied himself as an artist, as a railway booking-clerk, and as a private tutor; but his reckless predilection for alcohol and opium occasioned his early death.

Meanwhile Emily was dying of consumption, and on December 19 of that same year she was laid to rest by the side of her brother in the vault of Haworth church. Anne also was dangerously ill, and in the following spring Charlotte accompanied her to Scarborough, and there the author of *Agnes Grey* and *The Tenant of Wildfell Hall* died, on May 28, 1849.

In September 1849 Charlotte Brontë completed *Shirley*, and it was published in the following month, in many aspects the heroine being, it is believed, the prototype of Emily Brontë. Charlotte was now famous, and associated freely with her literary equals. She met Thackeray in London, visited Harriet Martineau at Ambleside, corresponded with George Henry Lewes and others, and sat for her portrait to Rich-

mond. In the following year she was again in London for the Great Exhibition. In 1852 she was occupied with *Villette*, which appeared the following year. In 1853, also, she visited London again, and her friend Mrs. Gaskell in Manchester. In June 1854 she married her father's curate, Arthur Bell Nicholls, an Irishman of Scotch extraction. After the marriage Nicholls continued to assist his father-in-law in parish work, and his wife made two or three ineffectual efforts to write yet another novel; but *Villette* was to be her last as well as her best story. She died on March 31, 1855.

The Professor, her first novel, was published after her death, with a brief introductory note by her husband. A bibliography on the Brontës is given in the Haworth edition of Mrs. Gaskell's *Life of Charlotte Brontë* (1857), an acknowledged classic, particularly valuable for its footnotes. Supplementary biographical material may be found in *Charlotte Brontë and her Circle* (1896) and *The Brontës: Life and Letters* (1908), both by Clement Shorter; and *The Father of the Brontës* (1897), by W. W. Yates. The Brontë Society publishes useful transactions, bibliographies, etc. The best criticism is by A. C. Swinburne, entitled *A Note on Charlotte Brontë* (1877). Sir Leslie Stephen, Sir John Skelton, Sir Wemyss Reid, Mr. Augustine Birrell, and Sir W. Robertson Nicoll are among those who have written with insight concerning the Brontës. The most recent essay of importance is one by Mary Duclaux, in *Grands Ecrivains d'outre Manche* (1901). Madame Duclaux (A. M. F. Robinson) also contributed a biography of Emily Brontë to the 'Eminent Women Series' (1883).

Brontometer ('thunderstorm-measurer'), a combination of meteorological instruments designed to facilitate the study of thunderstorms. The recording part of the instrument consists of a drum about 12 in. wide, on which is coiled endless paper fed by a clock which causes the paper to travel at the rate of 1·2 in. per minute, or 6 ft. per hour. Pressing on the paper are several pens connected with various automatic meteorological apparatus. These pens register in aniline ink the velocity of the wind, the rainfall, and the atmospheric pressure. Other pens, worked by keys, enable the observer to record the exact time of thunder or lightning, and the duration and intensity of hail. See Symons, 'On the Brontometer' (*Proc. Roy. Soc.*, vol. xlviii. p. 59).

Brontotheriidæ, gigantic extinct ungulate animals, the remains of which have been found principally in N. America. They occur in Eocene and Miocene strata, and indicate an animal intermediate in size between an elephant and a rhinoceros. The front foot had four digits, the hind foot three; from the shape of the skull it is probable that they had a long, flexible nose, though not a true prehensile proboscis. The type genus of the family is known as Titanotherium. See H. N. Hutchinson's *Extinct Monsters* (1892), and Smith Woodward's *Vertebrate Palæontology* (1893).

Bronx, THE, since 1898 one of the five boroughs which constitute New York City. It lies N. of Manhattan, between East R. and Long Island Sound and the Hudson R., and has an area of 39 sq. m., and pop. of 300,000. Bronx Park contains an important botanical garden as well as a zoological garden.

Bronze, an alloy of copper, 80 to 90 per cent., and tin, 20

to 10 per cent.: the tin may be partly replaced by lead and zinc. *Phosphor bronze*, much used for the working parts of machines and for telephone wires, contains about one-fifth per cent. of phosphorus, which greatly increases its hardness and tenacity. Similar alloys are obtained by the addition of small quantities of manganese and silicon. Bronze was one of the chief metals of antiquity. In modern times it has been used for the manufacture of cannon, though for this purpose it is now superseded by steel; for coins; as bell metal, on account of its resonance; and for casts of statues, busts, etc., because of its fine colour both when clean and when oxidized by the weather.

Bronze Age. The term 'age,' when applied to implements of stone, bronze, and iron, is no longer interpreted by antiquaries to denote an absolute division of time, but a condition of culture. Originally based on the assumption that the 'ages' of stone, bronze, and iron constituted three consecutive chronological epochs, there can be no doubt that this ill-chosen terminology has led to much misconception in matters archæological. Weapons of stone are still, in the popular mind, of necessity more ancient than those of metal. In direct opposition to such belief comes the theory of Paul Bataillard. This theory is partly based upon the fact that in Polish Galicia there is a caste of people called *zlotars*, who work in bronze to the exclusion of iron, and whose utensils would therefore be described (archæologically) as 'belonging to the bronze age,' and themselves as 'living in their bronze age,' although chronologically they are people of the 20th century, and their utensils of 20th-century manufacture. Bataillard further believed that people of the same race as these *zlotars*, who are gypsies, introduced bronze into Europe (see his *L'Importation du Bronze dans le Nord et l'Occident de l'Europe par les Tsiganes*, Paris, 1878); and Francis H. Groome pointed out that Lord Avebury was led, in 1865, to the conclusion that the first bronze-workers in Europe were an Eastern people, small-handed and nomadic, like the Egyptians or the Hindus. 'Bataillard's theory,' adds Mr. Groome, 'is gaining favour with foreign archæologists, among whom MM. Mortillet, Chantre, and Burnouf had arrived independently at similar conclusions.' (For fuller information on this subject, see F. H. Groome's *Gypsy Folk-Tales*, 1899, pp. 22–32.) It would seem, therefore, that although bronze has been manufactured from very ancient times, its existence in Europe ought to be associated with a certain race. Dr. Robert Munro has made the deduction that the use of the horse as a domestic animal in Britain synchronizes with the use of bronze implements; and this deduction, if made applicable to the Continent, would accord well with the belief that bronze came into Europe with a race of horsemen. Professor Stephens of Copenhagen states that, as early as the 10th century B.C., Asiatic caravans traded to and from the Baltic, and that the Assyrian bronze sabre found (*c.* 1875) at Nardi, in Arabia, is almost the counterpart of a bronze sabre found in Heda parish, Östergotland, Sweden, and now in the Stockholm Museum. 'A primeval centre of diffusion for bronze seems to have existed in the home of the civilized Sumero-Accadian people,' observes Dr. O. Schrader, who cites the following conclusion of Lindenschmit: 'The so-called bronze period appears, then, to

have been nothing but a time of active commercial and industrial intercourse between the Mediterranean peoples and those of the North. The products carried north show no indication whatever that they were the outcome of the native capacity of the Celto-Teutons; are related with earlier native creations; or that they were developed or grew into anything subsequent.' The opposite view has been more or less strongly advocated by Sophus Müller, Undset, Rygh, Hildebrand, John Evans, Anderson, and others. See Lord Avebury's *Prehistoric Times* (1900).

Bronze Statuary. The very ancient art of representing figures in bronze may be studied under the four varieties dependent upon the methods employed. 1. *Epithema*, solid casts in moulds, were probably the earliest; they were certainly known in Egypt. 2. *Sphyrelata*, figures constructed of beaten plates of bronze riveted together, were characteristic of Etruscan and Grecian art. 3. *Emblemata*, figures obtained by beating up or embossing the metal into high relief in a mould. 4. Hollow casts, formed on a mould of sand. (See CASTING.) A great antiquity is claimed also for this variety. Among famous masterpieces may be mentioned (*a*) the Etruscan Chimæra, found at Arezzo, and now in the Uffizi Gallery at Florence, and the Wolf of the Capitol at Rome. (*b*) Grecian bronze statuary reached its zenith between 460 and 430 B.C. The colossal Athene crowning the summit of the Acropolis was the greatest work of Phidias. (*c*) The Romans were rather patrons than producers of this art; and their lavish love of it is instanced by Pliny, who tells of Scaurus, stepson of Sulla, having 3,000 bronze statues used for the decoration of a temporary theatre. There is a statue of Nero by Zenodorius, 115 ft. in height. (*d*) Of mediæval examples, the statue of St. Peter at Rome, ordered by Leo I., ranks as one of the greatest achievements. Italy, indeed, was the home of the art, for proof of which we need but notice such works as the *albero*, the great candlestick of Milan Cathedral, the wonderful gates to the baptistery of Florence (the twenty-one years' labour of Lorenzo Ghiberti, completed in 1424), and Verrocchio and Leopardi's equestrian statue of Bartolomeo Coleoni in 1496.

In Germany and France monumental sculpture in bronze is comparatively rare; but among the artists who produced fine ecclesiastical furniture were Labenwolf, the Vischers, Muschgat, Hack, and Neidthard. Of the English school, the best craftsmen, who worked in stone and wood as well as in bronze, were Grinling Gibbons, Sir H. Cheese, Francis Bird, John Bacon, R.A., Sir R. Westmacott, and Chantrey. See *Bronzes of European Origin in S. Kensington Museum*, by C. D. E. Fortnum (1876). See also METAL DECORATIVE WORK.

Bronze-wing, a name applied to certain Australian pigeons in which the wings show metallic spots and patches. The common bronze-wing of the colonists is *Phaps chalcoptera*. See PIGEON.

Bronzing, the process of giving a metallic or iridescent appearance to metal and other articles either by the application of a chemical bronzing solution, or by dusting bronze powder on a surface previously prepared by coating with linseed-oil varnish. There are several bronzing solutions in use, some of the simplest being the following: for brown to black shades, five drams of nitrate of iron or five drams of perchloride of iron to one pint of water; for olive-green, one pint of permuriate of iron to two pints of water; for blue, twenty drams of hypo-sul-

phite of soda to one pint of water; for steel-gray, one ounce of muriate of arsenic to one pint of water. The article to be bronzed must be first cleaned by washing with strong acids or potashes before immersing in the chemical solution or otherwise applying it. Bronzing-machines are used for varnishing, dusting with bronze powder, and finishing the surfaces of wall-papers, fabrics, labels, etc.

Bronzino, Il (1502–72), the name given to Agnolo di Cosimo, Italian painter of the Florentine school in its decline, born at Monticelli, was the favourite pupil of Pontormo and friend of Vasari. His reputation rests on his careful portraits of prominent Florentines of his day. Perhaps his best-known work, *Christ's Descent into Hell* (Uffizi, Florence), influenced by Michael Angelo's *Last Judgment*, is artificial and crowded in arrangement. The portraits of Piero and Cosimo de' Medici, of a boy, of a lady, and of a knight of St. Stephen, as well as the allegory *Venus, Cupid, Folly, and Time*, are in the National Gallery, London, and a fine portrait of Eleonora di Toledo is in the Wallace Collection, London. See Ruskin's *Modern Painters;* Sir E. J. Poynter's *Classic and Italian Painting* (1880).

Bronzite, so called from its sub-metallic lustre resembling tarnished bronze, is one of the pyroxenes, belonging to the subdivision which crystallize in the rhombic system. It is a fairly common ingredient of igneous rocks. (See Hypersthene.) Its lustre is due to the reflection of light from the surface of minute metallic enclosures.

Brooch, an ornament fastened to clothing by a safety-pin. Several types are distinguished: the Roman bow-shaped *fibula* of various metals; the Celtic, usually of bronze, exhibiting extraordinary knowledge of metal-work, and rare taste in the application of zoomorphic decoration and enamelling; the Viking type, an oval, bowl-shaped brooch with vaguely zoomorphic decoration cut out of the solid bronze; the Scottish Highland, consisting of large flat bands of metal ornamented with grouped designs of interlaced and scroll patterns; and the Luckenbooth, usually small, heart-shaped, in copper, silver, and gold fancifully set with gems. Of more general mediæval forms may be mentioned the great clan brooches of precious metals set with crystal spheres and jewels, and the small gold brooches frequently inscribed with mottoes in French black-letter. See J. Anderson's *Scotland in Pagan Times* (1881), *Scotland in Early Christian Times* (1881), and Heaton's *Brooches of many Nations* (1904).

Brooke, Henry (?1703–83), Irish author, published his first work—*Universal Beauty*, a poem—in 1735. He wrote several tragedies—*e.g. Gustavus Vasa* (1739), *The Earl of Westmoreland* (1745), and *The Earl of Essex* (1749). Though anti-Catholic in his views, Brooke wrote a *Tryal of the Cause of the Roman Catholics* (1761). His novel, *The Fool of Quality*, was republished by Charles Kingsley (1859).

Brooke, Sir James (1803–68), best known as the Rajah of Sarawak, was born at Benares. In 1819 he entered the East India Company's army, and was seriously wounded in the Burmese war of 1826. Proceeding to Borneo in 1838, he aided the sultan of Brunei to reduce the marauding Dyak tribes of Sarawak, and with such success that the sultan created him rajah of the province of Sarawak in 1841. The island of Labuan, near Sarawak, having been purchased from Borneo by the British government, Brooke, who had been knighted in 1847, was appointed

governor of the island and commander-in-chief. His subsequent suppression of the pirates was so severe that he was attacked in the House of Commons in 1851, but exonerated; and finally the independence of Sarawak was recognized (1847) by the British government. Brooke died at Burrator, Devonshire—an estate purchased for him by public subscription—June 11, 1868. He was a fine specimen of the old type of Elizabethan adventurers so far as that type can be reproduced in a later age. See Temple's *Private Letters of Sir James Brooke* (1853); Munday's (1843) and Keppel's (1845) *Journals;* Jacob's *Raja of Sarawak* (1876); and St. John's *Life of Sir James Brooke* (1879). James Brooke was succeeded by his nephew, SIR CHARLES JOHNSON BROOKE (b. 1829), who rules over a larger territory than his uncle—the Limbang River district having been annexed in 1890, and an earlier accession having been made in 1885.

Brooke, LORD. See GREVILLE, FULKE.

Brooke, STOPFORD AUGUSTUS (1832), Irish man of letters, born at Letterkenny, Co. Donegal, Ireland, became minister of St. James's Chapel, York Street, London, in 1866, and was appointed a chaplain-in-ordinary to Queen Victoria (1872); but in 1880 he seceded from the English Church, owing to his scepticism in regard to the doctrine of the incarnation. He has written *Life and Letters of the late Frederick W. Robertson* (1865); *Sermons*, collected in 4 vols. (1868–77); *Theology in the Eng. Poets* (1874); *Primer of Eng. Lit.* (1876), a concise and useful little book; *Riquet of the Tuft: a Love Drama* (1880); *Poems* (1888); *Hist. of Early Eng. Lit.* (1892); *Tennyson: his Art* (1894); *Life and Writings of Milton* (Primers of Eng. Lit., 1898); *Early Eng. Lit.*, in Macmillan's series, uniform with Saintsbury's *Elizabethan Lit.* (1899); *The Poetry of Browning* (1902); *Ten Plays of Shakespeare* (1905); *Studies in Poetry* (1907); and *Four Poets* (1908).

Brook Farm, farm, W. Roxbury, 10 m. s.w. of Boston, Mass., U.S.A. Here an unsuccessful experiment of farming on Fourier's socialistic principles was undertaken in 1841 by the Brook Farm Association, under the leadership of Ripley, and embracing Nathaniel Hawthorne, Alcott, G. W. Curtis, W. B. Channing, Margaret Fuller, and C. A. Dana. The project proved a financial failure, and the community was disbanded in 1847. It is described in Hawthorne's *Blithedale Romance* (1852). See also Codman's *Brook Farm Memories* (1849), Russell's *Home Life of the Brook Farm Association* (1900), and Swift's *Brook Farm* (1900).

Brookfield, tn., Linn co., Missouri, U.S.A., on Yellow Creek, 95 m. E.N.E. of Kansas City; has iron foundries and engine works. Coal is mined in the vicinity. Pop. 5,500.

Brooklime (*Veronica Beccabunga*), a plant belonging to the Scrophulariaceæ, occurs throughout Europe, N. and Central Asia, and N. Africa, but does not enter the Arctic circle. It is abundant in Britain, where it is found growing in wet ditches, and on the margins of streams and ponds, in shallow water. The plant is devoid of hairs, and is very succulent. The stems, creeping on the surface of the mud, and rooting at the nodes, bear pairs of opposite leaves, from the axils of which flowering shoots arise. The flowers are bright blue, rather small, and arranged in pairs of opposite axillary racemes, not much longer than the subtending leaves. The plant had at one time a reputation as a spring salad and antiscorbutic.

Brookline, vil., Norfolk co., Mass., U.S.A., is 4 m. s.w. of Boston, of which it is a residential suburb. Pop. 28,000. See Bolton's *Brookline* (1897).

Brooklyn. See NEW YORK.

Brooks, CHARLES WILLIAM SHIRLEY (1816–74), was editor of *Punch*, and for a time parliamentary reporter for the *Morning Chronicle*, leader writer to the *Illustrated London News*, conducted the *Literary Gazette* (1858–59), and edited *Home News* after Robert Bell's death in 1867. He also contributed occasional pieces to the stage. He published the novels *Aspen Court* (1855), *The Gordian Knot* (1860), *The Silver Cord* (1861), and *Sooner or Later* (1868); also a book of travels, *The Russians of the South* (1856). From 1851 he contributed to *Punch* under the signature 'Epicurus Rotundus,' and in 1870 became editor. He initiated the articles headed 'The Essence of Parliament.' See *Life* by G. S. Layard (1907).

Brooks, PHILLIPS (1835–93), American divine and author, born at Boston, Mass., was an Episcopal clergyman in Philadelphia (1859–69), and afterwards in Boston, and was appointed bishop of Massachusetts in 1891. A spiritually-minded man and a powerful orator, his preaching was very popular and influential. He published *Sermons* (1878), *The Influence of Jesus* (1879), *Sermons Preached in English Churches* (1882), *Literature and Life* (1886), and other works. See *Life* by A. V. G. Allen (1901).

Brooks's Club. See ALMACK'S.

Brookweed (*Samolus Valerandi*), a small, almost cosmopolitan, herbaceous plant, belonging to the Primulaceæ. It abounds in marshes near the sea. Small white flowers are borne in racemes on a slender stem springing from the centre of a rosette of bright green leaves.

Brookwood, part of par. of Woking, Surrey, from which it is distant 4 m. w. It is chiefly noted for its asylum for pauper lunatics; and the necropolis, formed in 1854. A crematorium was erected here in 1889.

Broom. The common broom (*Sarothamnus scoparius, Cytisus scoparius*) is an evergreen shrub about three feet or more in height, with numerous straight twig-like branches, small ternate leaves, and large yellow papilionaceous flowers, followed by dark-brown pods. It thrives in dry sandy soil. The *Planta genista*, which gave its name to the line of Plantagenet, was the broom. *Scoparii cacumina*, or broom tops, have long held high place as a drug, and the decoction prepared therefrom is still used as a diuretic in certain conditions.

Besides the broom which occurs wild in Britain, many other kinds afford beauty to English gardens. The yellow-flowered *Cytisus nigricans*, which blooms at midsummer; the deciduous *C. biflorus*, which bears pairs of yellow flowers in May; the white-flowered *C. albus* from Portugal; Ardoino's broom (*C. Ardoini*), which is a tufted little plant only four inches high; and the purple broom (*C. purpureus*), are among the best of the hardy sorts; while *C. canariensis, C. racemosus*, and *C. filipes* are specially worth growing as greenhouse plants. A soil composed of four parts loam, one part peat, and one part sand suits these well. After flowering, the greenhouse species should be cut back and kept in a warm house till growth has well started. Then the plants should be kept cool until the opening months of the following year. Propagation is best effected by cuttings of the young wood taken in spring and placed in heat.

The use of broom twigs for the making of brooms or besoms is

very old; they have also been used for thatching houses; and the flower-buds are said to have some virtue as a pickle. See Hulme's *Wild Fruits of the Countryside* (1902).

Broom. See BRUSHES.

Broom Corn (*Sorghum vulgare*), an E. Indian reedlike grass cultivated in the United States, and used for making brooms; the seeds afford a food for cattle.

Broome, small seapt., w. coast, Dampier Land, Kimberley div., W. Australia, about 18° s.; headquarters of the pearl-fishing industry. Pop. 600.

Broome, SIR FREDERICK NAPIER (1842–96), British colonial statesman, born in Canada, but went to New Zealand (1857–69) in early youth. He was colonial secretary of Natal (1875) and of Mauritius (1877), governor of W. Australia (1882), of Barbados (1890), and of Trinidad (1891). His wife, Mary A. Stewart, a native of Jamaica, has written *Station Life in New Zealand* (1869).

Broome, WILLIAM (1689–1745), translator, was born at Haslington, Cheshire. In 1712 he collaborated in a prose translation of the *Iliad*, and was employed by Pope in annotating his own translation. In 1722 Pope proposed to Broome and his friend Elijah Fenton to join him in translating the *Odyssey*. Broome did the 8th, 11th, 12th, 16th, 18th, and 23rd books, and all the notes. See Johnson's *Lives of the Poets* (1779-81). For his quarrel with Pope, see Elwin and Courthope's *Correspondence of Pope* (1871–89).

Broom Rape (Orobancheæ), a genus of plants with about 180 species, belonging chiefly to the temperate regions, all parasitic on the roots of other plants—*e.g.* broom, hemp, tobacco, ivy. They are brightly coloured plants, but bear no green leaves, having scales instead.

Brora Coals. See OOLITE.

Brosböll, KARL. See CARIT ETLAR.

Brosch, MORITZ (1829–1907), German historian, born at Prague, was a journalist there and at Vienna until 1873, when he removed to Venice and devoted himself to historical studies. He wrote *Papst Julius II und die Gründung des Kirchenstaats* (1878), *Geschichte des Kirchenstaats* (2 vols. 1880–2), *Lord Bolingbroke und die Whigs und Tories seiner Zeit* (1883), *Oliver Cromwell und die Puritanische Revolution* (1886), and the continuation of Lappenberg-Pauli's *Geschichte von England* (1890–7).

Broschi, CARLO. See FARINELLI.

Broseley (2,006 ac.), par. and mrkt. tn., Shropshire, England, on G.W.R., 15 m. S.E. of Shrewsbury; has coal mines, and important trade in glazed tobacco-pipes (chiefly 'churchwardens'), bricks, and tiles. Pop. 4,000.

Brotherhoods, associations of men of the same profession, society, fraternity, or religious order. The chief religious brotherhoods were the fraternities known as the Brothers of Mary, of the Scapular, of the Sacred Heart, and of Francis Xavier. These were followed by the Fratres Pontifices (whose duties were mainly confined to looking after travellers in the neighbourhood of bridges and ferries), and the Familiars and Cross-bearers, identified with the Spanish Inquisition. The later brotherhoods were founded in the Netherlands and N. Germany, and they spread over the Continent rapidly, till, in the middle of the 15th century, their number was reckoned at over 150. During the last two centuries there has been a large growth of brotherhoods in the Roman Catholic Church. There are also several brotherhoods in connec-

tion with the Church of England. See CHRISTIAN BROTHERS and BRETHREN, APOSTOLIC.

Brothers, RICHARD (1757-1824), a British naval officer, born in Newfoundland. About 1793 he began to describe himself as the 'nephew of the Almighty,' prophesied his own 'revelation,' on Nov. 19, 1795, as prince of the Hebrews and ruler of the world, and the rebuilding of Jerusalem in 1798. He was arrested and confined in a lunatic asylum in 1795. Nathaniel Brassey Halhed, M.P. for Lymington, to whom Brothers had promised the government of India, attempted to raise his case in Parliament. In 1806 Brothers was released, and was taken charge of by John Finlayson, a Scottish writer, who had given up a lucrative practice at the bar to follow him. In 1794 he published a book of 'prophecy,' *A Revealed Knowledge of the Prophecies and the Times*, which led many to believe in him.

Brötzingen, tn., Baden, Germany, 2 m. w. of Pforzheim. Pop. 6,500.

Brough, LIONEL (1836-1909), English actor, born at Pontypool, Monmouthshire. He began life as a clerk to John Timbs, editor of the *Illustrated London News*, and afterwards was on the staff of the *Daily Telegraph*, when he originated the present system of selling newspapers in the streets. He made his first appearance on the stage at the Lyceum Theatre, London, under the management of Madame Vestris (1854). In 1858 he left the stage for five years, during which time he was engaged on the staff of the *Morning Star*. In 1863 he returned permanently to the stage, and figured prominently as a low comedian. But he had also a special gift for the interpretation of some of Shakespeare's humorous characters, as was seen in his Sir Toby Belch in *Twelfth Night* at His Majesty's Theatre (1901). Some of his later rôles were the Host of the 'Garter' in *The Merry Wives of Windsor* at His Majesty's (1908), and Lauterbach in *Into the Light* at the Court (1908).

Brougham, HENRY, BARON BROUGHAM AND VAUX (1778-1868), was born in Edinburgh, and called to the Scottish bar in 1800; but owing to his pronounced Whig and Liberal sympathies, and to a reputation for eccentricity and rashness, met with comparatively little success as an advocate, and in 1805 migrated to London, where he permanently settled, being called to the English bar in 1808. In 1802 he joined with Jeffrey and others in founding the *Edinburgh Review*. To the first twenty numbers he contributed no fewer than eighty articles; and the encyclopædic character of his learning, which included natural philosophy and mathematics, natural theology and metaphysics, besides politics and history, was displayed in these early contributions.

At the English bar he contrived to make a great reputation by his success in some celebrated cases, the first of which was as counsel of the Liverpool merchants who petitioned against the Orders in Council which formed part of the commercial war between England and Napoleon. This was in 1810; and soon after he entered the House of Commons, where his turbulent and aggressive eloquence secured him a ready welcome from the opposition. Brougham was a tireless advocate of slave emancipation, of political reform, of law reform, of national education, and of religious equality. Among other projects which he helped to start were the University of London in 1825, and the Society for the Diffusion of Useful Knowledge (1827). He also made a great reputation for him-

self as a champion of popular rights by his speeches in defence of persons prosecuted by the crown for libel. His *cause célèbre* was his defence of Queen Caroline in 1820, which so endeared him to the English people that for the next ten years he was almost a popular idol. One of his many escapades was to circulate the rumour of his death, that he might read his own obituary notices. In 1830 he was made Lord Chancellor, and was largely instrumental in getting the Reform Bill passed in 1832. Although invaluable in opposition, he was impossible as a colleague in office. He was too turbulent, too vain, too rash; and when the Whig ministry was reconstructed in 1834, Brougham was neither then, nor at any subsequent date, reappointed to office. This inspired him for many years with an intense hatred of Melbourne, who had shelved him. From that time he resided chiefly at Cannes (which he popularized as a health resort), finding in his political exile solace in founding and supporting the Social Science Association (1857). His writings were published in 11 vols. in 1855–61; new ed. 1872–3. His *Memoirs of his Life and Times* (1871) are hardly trustworthy. See Campbell's *Lives of the Chancellors*, Bagehot's *Biographical Studies*, Atlay's *Victorian Chancellors* (1905), and *Brougham and his Early Friends* (1908).

Brougham, JOHN (1814–80), Irish dramatist and actor, was born in Dublin. Besides acting, he undertook theatrical management, first in London and afterwards in New York, but always with disastrous financial results. As an actor he excelled in Irish parts. He wrote over seventy plays, among the best known being *The Duke's Motto*, *Bel Demonio*, *Romance and Reality*, and the burlesque *Pocahontas*.

Broughton, RHODA (1840), novelist, was born in Denbighshire. She started novel-writing with a work entitled *Not Wisely but Too Well* (1867), in which the situations and language attracted attention through their combined originality and audacity. She made her misses men in their sayings and doings, and it may be said that she had a considerable share in the introduction of 'the new woman' into English fiction. At the same time, her characters are closely observed, and depicted with great candour and realism, and she excels in humorous situations. Her other novels are *Cometh up as a Flower* (1867), *Red as a Rose is She* (1870), *Nancy* (1873), *Joan* (1876), *Belinda* (1883), *Dr. Cupid* (1886), *Alas!* (1890), *A Beginner* (1894), *Scylla and Charybdis* (1895), *Dear Faustina* (1897), *The Game and the Candle* (1899), *Foes in Law* (1901), *Lavinia* (1902), and *A Waif's Progress* (1905).

Broughty-Ferry, tn., Forfarshire, Scotland, 3 m. E. of Dundee, on C. and N.B. Joint Ry.; residence of Dundee merchants; seaport and fishing town. Before the erection of the Tay Bridge it was a busy place, being the port for the ferry steamer from the S. side of the Tay. The 15th-century castle is of historic interest, and is still fortified for the defence of the Tay. Pop. 12,000.

Broussa. See BRUSA.

Broussais, FRANÇOIS JOSEPH VICTOR (1772–1838), French physician, was born at St. Malo, and died at Vitry. Imperfectly educated, he served as surgeon through campaigns in Germany, Holland, Italy, and Spain; and also in the navy. Appointed in 1820 professor at the military hospital of Val-de-Grâce, Paris, and in 1831 professor of general pathology at the Academy of Medicine, Paris, he founded a peculiar theory of medicine—*Histoire des*

Christ Washing St. Peter's Feet. By Ford Madox Brown. In the National Gallery of British Art (Tate Gallery), London.

Phlegmasies ou Inflammations Chroniques (1808; 3rd ed. 1826), and *Examen de la Doctrine Médicale généralement adoptée* (1816; 4th ed. 1829–34)—in which he defined life as dependent upon irritation, and disease, primarily local in its origin, as excessive or insufficient irritation.

Brouwer, or BRAUWER, ADRIAEN (?1606–38), Dutch painter, was born of humble parentage at Oudenarde; studied at Haarlem (1626–7) under Frans Hals, a hard taskmaster, from whose cruelties he fled to Amsterdam, and thence to Antwerp (1630), where he was arrested as a spy, but obtained his liberty, according to tradition, by painting a picture which Rubens recognized as the work of a master. A life of dissipation brought him to an early death. His subjects, like those of his countryman Teniers, were chosen from low life—tavern brawls, country feasts, boors playing cards, etc.—but all executed with admirable expression, brilliant colouring, and exquisite finish and vigour. See *Life* by W. Bode (1884).

Brower, JACOB VRADENBERG (1844–1905), American archæologist, was born at York, Michigan, U.S.A., and made a name for himself as an explorer of his own country. In 1894–5 he discovered mounds and the site of an ancient village at Itasca Lake; in 1897–8 he rediscovered the site of Quivira; and in 1900 he identified over 1,100 ancient mounds at Mille Lac, Minnesota. His written works include *The Mississippi and its Source* (1893), *Prehistoric Man at the Head-waters of the Mississippi* (1895), *Quivira* (1898), *Mille Lac* (1900); *Kansas, Monumental Perpetuation of its earliest History, 1541–1896* (1903).

Brown, MOUNT, peak in Rocky Mts., Canada, between Alberta and British Columbia; long reputed the highest peak of the Rockies, but now estimated to be only 9,055 ft. high.

Brown, ALEXANDER CRUM (1838), Scottish chemist, was born in Edinburgh; became extra-academical lecturer in chemistry at Edinburgh University in 1863, and occupied the chair in the same subject in the university (1869–1908). Crum Brown's principal work has been on the relation between chemical constitution and physiological action, the ketines, electrolytic synthesis, and the anatomy and physiology of the semicircular canals of the internal ear.

Brown, CHARLES BROCKDEN (1771–1810), the earliest prominent American novelist, was born of Quaker parentage at Philadelphia. His first attempt at literature, *Alcuyn* (1797), a wild speculation on the evils of marriage, was followed by *Wieland* (1798), *Ormond* (1799), *Arthur Mervyn* (1800), *Edgar Huntley* (1801), *Clara Howard* (1801), and *Jane Talbot* (1804). Popular in England for a time, his novels, which were to some extent influenced by Godwin, are characterized by lively diction, but are unreal and improbable in plot and action. A collected edition was published in 1827, with Life by Dunlap (new ed. 1887). See W. H. Prescott's *Life of Ch. B. Brown* (1834).

Brown, FORD MADOX (1821–93), British historical painter, and pioneer of the pre-Raphaelite movement, was educated in Belgium. He studied painting under Wappers; also in Rome and Paris. His true masters were Holbein and the 15th century Italian masters, from whom he developed his sense of grand style and archaism of form. In 1844 he competed for the wall decorations at Westminster Hall: his designs were the indirect means of bringing him into contact with Rossetti, his pupil and friend, and other members of the pre-

Raphaelite brotherhood. He settled in London in 1846, and both with pen and brush worked to fulfil the aims of the earnest and enthusiastic band, which included Rossetti, Millais, and Holman Hunt. From 1879 he was engaged on a series of mural paintings for the Manchester town hall. That city also possesses a masterpiece, *Work*. *The Last of England*, another masterpiece, is at Birmingham; *Christ Washing St. Peter's Feet*, in the National Gallery, London. Among his other works are *King Réné's Honeymoon*, *King Lear*, *Cordelia's Portion*, and *Cromwell at St. Ives*. He also designed cartoons for stained glass for William Morris. See Hueffer's *Life and Letters of Ford Madox Brown* (1896); Sizeranne's *English Contemporary Art* (1898); Chesneau's *English School of Painting* (1884); W. M. Rossetti's *Ruskin, Rossetti*, etc. (1899), and *Pre-Raphaelite Diaries and Letters* (1899); and Helen Rossetti's *F. M. Brown* (1901). See PRE-RAPHAELITISM.

Brown, SIR GEORGE (1790–1865), British general, was born near Elgin, Scotland. He distinguished himself in the Peninsular war (1808–13), and in America (1814), where he fought at Bladensburg and Washington. Sent in command of the Light Division to the Crimea (1854–5), he behaved gallantly at Alma and Inkerman, being severely wounded in the latter battle. In 1860 he became commander-in-chief in Ireland. See A. W. Kinglake's *Invasion of the Crimea* (1899).

Brown, GEORGE (1818–80), Canadian publicist and Liberal leader, born at Edinburgh, Scotland. He settled in Toronto (1843), and entered the Union Parliament (1852). In 1858 he was called upon to form an administration, and he took as its basis the federation of all British provinces. Six years later he proposed the coalition which effected the present confederation. In 1873 he entered the Senate, and, with the British minister at Washington, negotiated (1874) a reciprocity treaty with the United States, which was accepted by Canada, but failed of ratification by the American Senate. On March 25, 1880, he was shot by a discharged workman, and died on the 9th of the following May. See Mackenzie's *Life and Speeches of the Hon. George Brown*, and Lewis's *Makers of Canada: Hon. George Brown*.

Brown, GEORGE DOUGLAS (1869–1902), Scottish author, was born at Ochiltree, Ayrshire. After graduating at Oxford in 1895, he proceeded to London, and entered on literary and journalistic work. To the public he was entirely unknown until he brought out his novel, *The House with the Green Shutters* (1901), a powerful story of Scottish life, published under the pen-name of 'George Douglas.' A brief memoir of his life appeared in 1903.

Brown, GEORGE LORING (1814–89), American landscape painter, was born at Boston, Mass. After spending twenty years in Europe, he returned to America (1860). His subjects are mainly American and Italian landscapes. His *Crown of New England* was purchased by King Edward VII., who also owns *The Bay of New York* (1860). Other pictures by Brown were *Niagara by Moonlight* (1876), *Doge's Palace, Venice*, and *The Bay of Naples*.

Brown, HENRY KIRKE (1814–86), American sculptor, born at Leyden, Mass., U.S.A. His chief work was the equestrian statue of Washington in New York, which is notable for being the first important piece of bronze statuary in the United States. His statue of Lincoln was a failure, but the equestrian statue of General Scott is a most artistic work.

Brown, HORATIO ROBERT FORBES (1854), writer on Venice, was born at Nice. Has published *Life on the Lagoons* (1884; 5th ed. 1909); *Venetian Studies* (1887); *The Venetian Printing Press* (1891); *Venice, an Historical Sketch* (1893; 2nd ed. 1895); a *Biography* of John Addington Symonds (1895; 2nd ed. 1903); *In and Around Venice* (1905); a translation of Molmenti's *Venice* (6 vols. 1907-8); *Studies in the History of Venice* (1907), etc.; and has edited for the Public Record Office of London the *Calendar of State Papers, Venetian, 1581-1613* (1895-1905).

Brown, JOHN, of Haddington (1722-87), Scottish Presbyterian divine, was born at Carpow, in Abernethy parish, Perthshire. While a herd boy on the Abernethy braes he learned Latin and Greek, and passed ultimately into the Secession ministry. In 1751 he was settled at Haddington, where the remainder of his life was spent. Brown was professor of divinity in the Secession Hall from 1768. Of his writings, entirely theological, the best remembered are *Dictionary of the Bible* (1768), and the *Self-interpreting Bible*, published in two volumes in 1778. He was a man of vast learning, and excelled in Oriental lore. See *Memoirs and Select Remains*, edited by the Rev. W. Brown (1856).

Brown, JOHN (1784-1858), Scottish divine, grandson of the above, and son of the Rev. John Brown of Whitburn (1754-1832)—an author of some repute in his day—was born at Whitburn, Linlithgowshire. He became minister in 1806 of the Secession congregation at Biggar, Lanarkshire, where he remained till 1822, when he was translated to Rose Street church, Edinburgh. In 1829 he accepted a call to Broughton Place church, in the same city. He was moderator of the Associate Synod in 1818, and was professor of exegetical theology to his denomination from 1834 till his death at Edinburgh, Oct. 13, 1858. Dr. Brown was a notable figure in the religious history of his time, a profound theologian, a prolific writer (author of over fifty publications—see list in Mackelvie's *Annals*, 1873), and a preacher of rare eloquence. See Cairns's *Memoir* (1860), and his son's admirable 'Letter to John Cairns, D.D.' in *Horæ Subsecivæ* (1858-1861, 1882).

Brown, JOHN (1810-82), son of the preceding, was born at Biggar, Lanarkshire. Apprenticed in 1827 to Syme, the eminent surgeon, he afterwards settled down to professional life in Edinburgh. Dr. John Brown is the Charles Lamb of Scottish literature. His writings, collected into the three volumes of *Horæ Subsecivæ* (1858-61; new ed. 1882), are among the most charming in the language. He ennobled, as few have done, the humblest things of life. The most popular and incomparably the finest of his productions are *Rab and his Friends* (1859); *Pet Marjorie* (1863); and *Jeems the Doorkeeper* (1864). See Dr. Peddie's *Recollections of Dr. John Brown* (1893); *Dr. John Brown and his Sisters Isabella and Jane* (new ed. 1901); J. T. Brown's *Dr. John Brown* (1903); articles in the *Century* and *Good Words* magazines (1882), Swinburne's sonnet, and *Letters* (1907).

Brown, JOHN (1735-88), a Scottish physician, was educated at Duns, Berwickshire, and studied medicine in Edinburgh. His innovations in medical practice led to his formal ostracism in Edinburgh in 1778, whereupon he removed to London. Here he died, after ten years of poverty. His doctrines, known as the Brunonian system, now medical commonplaces, were promulgated in

Elementa Medicinæ (1780), which consisted chiefly in an attack on the indiscriminate use of blood-letting. See *Lives* by W. C. Brown (1804) and Dr. Beddoes (1795), and Häser's *Geschichte der Medicin*, vol. ii. (1884).

Brown, SIR JOHN (1816–96), English steel manufacturer, the son of a slater, was born at Sheffield, and apprenticed to a file and cutlery firm. In 1848 the idea occurred to him of the conical steel buffer spring, which was a profitable invention. After this the business rapidly increased, and was transferred to the Atlas Works (1856), which eventually covered an area of thirty acres. He at once started the manufacture of wrought iron for steel-making, and by an agreement with Bessemer this special steel was manufactured at the Atlas Works in huge quantities. Soon afterwards he began to turn his attention to rolling steel plates as armour - plating for war vessels. Up to 1863 he had sheathed with iron armour fully three-fourths of the whole British navy. He was knighted in 1867.

Brown, JOHN (1800–59), American abolitionist, was born in Torrington, Conn., and was a direct descendant of Peter Brown, one of the *Mayflower* pilgrims. Deeply imbued with the religious principles of his forefathers, he early conceived a hatred of slavery. In 1855 he joined his sons, who had settled in Kansas, where he played a prominent part in the savage border warfare with Missouri. In June 1859 he rented a farmhouse about six miles from Harper's Ferry, and organized a plot to free the slaves of Virginia. On October 16 he, with the aid of twenty-two friends, six of whom were negroes, surprised and captured the arsenal at Harper's Ferry, but was wounded, taken prisoner by the Virginia militia, tried by court-martial, and hanged along with four of his sons at Charleston on December 2. The incident at Harper's Ferry helped largely to hasten the civil war. See Brown's *Life and Letters*, ed. by Webb (1901); Sanborn's *Life and Letters* (1885); Newton's *Captain John Brown of Harper's Ferry* (1902); and Villard's *John Brown, 1800–1859* (1909).

Brown, LANCELOT (1715–83), English architect and landscape gardener, known as 'Capability Brown,' was born at Harle-Kirk, Northumberland. He was the founder of the modern or English style of landscape gardening, and remodelled and laid out the grounds at Kew, Blenheim, and Nuneham Courtenay. After amassing a large fortune he retired to Huntingdon, of which town he became sheriff.

Brown, OLIVER MADOX (1855–74), painter and author, son of Ford Madox Brown, born at Finchley, Middlesex. At the Dudley Gallery he exhibited *Chiron receiving the Infant Jason from the Slave* (1869) and *Obstinacy* (1870), and, at the Royal Academy, *Exercise* (1870). His other pictures include *The Tempest, Prospero and the Infant Miranda* (1871), and *A Scene from 'Silas Marner'* (1872). He is the author of *To All Eternity*, a poem (1871); *Gabriel Denver* (1873); *Hebditch's Legacy* and *The Dwale Bluth*, posthumous works (1876); and *Literary Remains* (1876). See biographical sketch (1883) by John H. Ingram.

Brown, PETER HUME (1850), professor in the Fraser chair of ancient history and palæography in Edinburgh University since 1901, and Historiographer-Royal for Scotland (since 1908), was born in Haddingtonshire, and became a teacher. At the present day he is one of the leading historians of Scotland. In 1898 he was appointed editor of the

Register of the Privy Council of Scotland, in course of publication. His works include *George Buchanan, Humanist and Reformer* (1890); *Early Travellers in Scotland* (1891); *Scotland before 1700* (1893); *John Knox: a Biography* (1895); *Hist. of Scotland* (1898–1909); and *Scotland in the Reign of Queen Mary* (1904). The article on the History of Scotland in this encyclopædia was written by him.

Brown, ROBERT (1773–1858), Scottish botanist, was born at Montrose. He resigned (1801) his position as assistant surgeon in the army to become naturalist to the expedition sent out by the Admiralty under Flinders to explore the coast of Australia. He returned to Britain in 1805, bringing with him a collection of 4,000 species of plants. He succeeded (1810) Dr. Dryander as librarian to Sir Joseph Banks, and in 1805 was appointed librarian of the Linnean Society. He published the results of his researches in 1810 in *Prodromus Floræ Novæ Hollandiæ*, the first British work on botany which treated of plant arrangement in a philosophical spirit. In 1823 Sir Joseph Banks bequeathed to Brown his library and herbarium. The latter he handed over to the British Museum; whereupon he was appointed, in 1827, keeper of the botanical department of that institution. In the same year he discovered 'Brownian movements' (*q.v.*). In 1839 he was awarded the Copley medal of the Royal Society, and afterwards received a pension of £200 from the civil list. Brown's *Miscellaneous Botanical Works* (2 vols. 1866–8) were edited for the Ray Society by J. J. Bennett.

Brown, THOMAS (1663–1704), satirist, generally styled 'Tom' Brown, author of numerous dialogues and other miscellanies, was a native of Shropshire. As a student he distinguished—and extinguished—himself at Oxford by his rendering of Martial's epigram, which he applied to the dean of his college, commencing, 'I do not love thee, Dr. Fell.' From Oxford he went to London, where he laid out his powers on small jests and gross buffoonery, levelled principally at the distinguished men of the time. See Memoir (by James Drake) prefixed to Brown's *Collected Works* (3 vols. 1707–8), and T. Cibber's *Lives of the Poets*, vol. iii. (1753.)

Brown, THOMAS (1778–1820), Scottish metaphysician, son of the minister of Kirkmabreck, Kirkcudbrightshire. Having studied law and medicine, in 1806 he became partner with the celebrated Dr. Gregory. Dugald Stewart being in a declining state of health, Brown lectured for him for two sessions, and was appointed his colleague in 1810. He died during a visit to London. His *Lectures* (21st ed. 1870) were published shortly after his death, and had great popularity in Britain and the United States. In 1818 (new ed. 1824) he produced an elaborate *Inquiry into the Relation of Cause and Effect*, in defence of Hume. Brown was a disciple of the Scottish school of Reid and Stewart. See D. Welsh's *Account of the Life and Writings of Thomas Brown* (1825), J. M'Cosh's *Scottish Philosophy* (1875), and A. S. Pringle-Pattison's *Scottish Philosophy* (1900).

Brown, THOMAS EDWARD (1830–97), schoolmaster and poet, was born at Douglas, Isle of Man. After taking orders, and serving as vice-principal of King William's College and master of the Crypt School, Gloucester (1858–61), he went to Clifton, where he was master under Dr. Percival from 1864–93. His English poetry is full of thought, feeling, and imagination, but has been little valued in proportion to its deserts, either before or since his

death. His Manx poems, chiefly rollicking narratives in racy dialect, were prompted by a passionate love of his native island, with every corner of which he was familiar, and to which he retired on leaving Clifton in 1893. He died at Clifton while giving an address to the school. Works: *Betsy Lee* (1873); *Fo'c'sle Yarns*, etc. (1881; 2nd ed. 1889); *The Doctor*, etc. (1887); *The Manx Witch*, etc. (1889); *Old John*, etc. (1893); *Collected Poems* (with portrait), edited by W. E. Henley, H. G. Dakyns, H. F. Brown (1900); *Letters*, edited by S. T. Irwin (1900).

Brown, SIR WILLIAM (1784–1864), Liverpool 'merchant prince,' was born at Ballymena, Co. Antrim, Ireland. When he was sixteen he went to the United States, where he started his commercial career in the linen trade, at Baltimore. In 1809 he returned to England, and established a branch of the firm at Liverpool, becoming, at the same time, a general merchant, and subsequently a banker. He acquired immense wealth, and a few years before his death gave £40,000 to erect the Public Library and Derby Museum in Liverpool, which was opened in 1860. He represented S. Lancashire in Parliament in 1846, 1847, 1852, 1857, and 1859, when he retired, and was raised to the baronetage in 1863. See Bourne's *English Merchants*, vol. ii. (1886).

Brown Bess, soldiers' name for the regulation bronzed flintlock musket formerly used in the British army. Said to be an imitation of the name brown bill, which was given to an earlier weapon.

Browne, CHARLES FARRAR (1834–67), better known as ARTEMUS WARD, American humorist, was born at Waterford, Maine. At first a compositor, and then a reporter and contributor to various newspapers, he began in 18[illegible] to write in the *Cleveland Plaindealer*, under the title of 'Artemus Ward, showman,' the actual name of an eccentric old showman whom he knew. His droll contributions, with their mixture of quaint spelling, keen wit, and shrewd common sense, soon came to be widely read. In 1860 he left Cleveland for New York, to edit a new comic paper, *Vanity Fair*, which, however, had only a brief existence. He then gave his first satirical lecture, *The Babes in the Wood*, which was conceived in a unique vein of humour. With this lecture he travelled over the plains and the Rocky Mts., meeting with some adventures among the Indians and the Mormons. In 1866 he came over to England and opened his show with a panorama in the Egyptian Hall. His lectures excited roars of laughter, his wit being of a new and wholly unconventional type. He became a contributor to *Punch*. He died at Southampton. Many of his sketches were published in volumes, respectively entitled *Artemus Ward, his Book* (1862); *Artemus Ward, his Travels among the Mormons* (1866); and *Artemus Ward in London* (1867). They were subsequently collected into a single volume, entitled *The Complete Works of Artemus Ward* (1875). Browne was a humorist *sui generis*, like Hood and Mark Twain. The delicious inconsequence of Browne's humour, with its clever touches of human nature and its utterly unexpected antitheses, gives it a unique quality.

Browne, EDWARD GRANVILLE (1862), Persian scholar and lecturer, and Sir Thomas Adams's professor of Arabic in Cambridge since 1902, son of Sir Benjamin C. Browne, engineer and shipbuilder, Newcastle, was born at Uley, near Dursley. He studied medicine and science, but after

a course of travel in Persia he abandoned the practice of science for the cultivation of Oriental languages, and has published many valuable treatises, notably a Persian text of the history of the Bab, with an English translation and notes (1891), *The New History of Mirza Ali Muhammad the Bab* (1893), *Catalogue of Persian Manuscripts in Cambridge University Library* (1896), a critical edition of Daulatshah's *Tadhkira* (1901), *The Literary History of Persia until the Time of Firdawsi* (1903), *until the Mogul Invasion* (1906), *Abridged Translation of Ibn Isfandiyár's History of Tabaristán*, *Short Account of Recent Events in Persia* (1909), and *The Persian Revolution of 1905–9* (1910). Professor Browne has taken a prominent part in the defence in this country of the Persian nationalist movement.

Browne, EDWARD HAROLD (1811–91), bishop of Ely and of Winchester, was born at Morton House, Bucks. He was a wrangler at Cambridge in 1832, gaining in 1833 the Crosse theological scholarship, in 1834 the first Hebrew scholarship, and in 1835 the Norrisian prize. From 1843 to 1849 he was vice-principal at St. David's College, Lampeter, and in 1857 vicar of Heavitree, Exeter, and canon of Exeter. In 1864 he became bishop of Ely, and in 1873 succeeded Wilberforce as bishop of Winchester. Browne, who published a large number of works on theological subjects, took a great interest in the Old Catholic movement in Germany. His best-known works are, *Exposition of the Thirty-nine Articles* (1850–3), which is a text-book for candidates for Episcopal ordination; *The Messiah* (1862); and *The Pentateuch and Elohistic Psalms* (1863), a reply to Dr. Colenso. See *Life* by Dean Kitchin (1895).

Browne, GEORG, COUNT VON (1698–1792), Russian general, born in Scotland of an old Norman family, but educated at Limerick. Owing to the Catholic Disabilities Acts he left Scotland, and entered first the service of Germany (1725), and afterwards the army of Russia (1730), and soon distinguished himself by suppressing a revolt of the Guards against the Empress Anna. He took part in various campaigns against Poland, France, and the Turks, being made prisoner by the last named in 1739 and sold as a slave. Liberated through the influence of Villeneuve, French ambassador at Constantinople, he returned to Russia, was made a general, and distinguished himself in the Swedish war from 1742. At the beginning of the Seven Years' war he was severely wounded at the battle of Zorndorf. He was created a field-marshal by Peter III., and entrusted with the conduct of the war against Denmark. For the last thirty years of his life he was governor of Esthonia and Livonia.

Browne, HABLOT KNIGHT (1815–82), known as 'Phiz,' book illustrator, caricaturist, and water-colour painter, was born at Lambeth, of French descent. After serving his apprenticeship to a mechanical line engraver, he was chosen by Dickens (1836–7) to illustrate the *Pickwick Papers*, then being published; signing his pictures with the pseudonym 'Phiz,' as an appropriate complement to the author's 'Boz.' With *Pickwick* both artist and author at once achieved fame, and the illustrations of 'Phiz' have become identified with the first editions of Dickens's earlier novels. His well-known style is incisive, masterly, and full of humour, with a strong tendency to exaggeration and caricature. Numerous examples of his work occur in other novels (by Lever and Ainsworth)

and publications of the mid-Victorian era. Struck with paralysis in 1867, he was kept from want by an annuity from the Royal Academy. He died at Brighton. See *Life* by D. C. Thomson (1884).

Browne, MAXIMILIAN ULYSSES, BARON DE CONNUS AND MOUNTANY, COUNT VON (1705–57), Austrian field-marshal, nephew of Georg, Count von Browne; entered the Austrian army early in life, and took part in the wars of the Polish succession (1733–8), in Italy (1734), against the Turks (1737–9), and was appointed commander-in-chief in Silesia. In 1740, when Frederick the Great of Prussia invaded that province, Browne retired to Moravia, but returned afterwards and took part in the battle of Mollwitz. He fought in the war of the Austrian Succession, and was created a field-marshal in 1749. At the beginning of the Seven Years' war he was in command in Bohemia, and opposed Frederick II. at Kolin (1756), and the Saxons at Pirna (1756), but without success. In 1757 he distinguished himself in the battle near Prague, but was fatally wounded during the ensuing siege.

Browne, ROBERT (?1550–1633), founder of the religious sect of the 'Brownists,' became in 1572 a schoolmaster in London and an outdoor preacher, afterwards gathering at Norwich and elsewhere congregations who held with their leader that the church was not so much a witness of divine truth to enlighten the world, as merely a witness against the world. He was several times arrested and imprisoned, though occasionally and successfully interceded for by his relative Cecil, Lord Burghley; but at last, for refusing to appear before a bishop when cited, he was excommunicated, and had to flee to Holland (1581–4). Unwilling, however, to leave the Church of England, Browne stopped his agitation; and after acting (1586) as schoolmaster of Stamford, and (1591) as rector of Achurch, he died in Northampton. See Fuller's *Church History* (1655); John Browne's *History of Congregationalism in Norfolk and Suffolk* (1877); Dexter's *Congregationalism of the last Three Hundred Years* (1880), and Burrage's *True History of Robert Browne* (1906).

Browne, THOMAS A. See BOLDREWOOD, ROLF.

Browne, SIR THOMAS (1605–82), English physician, antiquary, and author of *Religio Medici*, the son of a London merchant; studied in France, Italy, and Holland, receiving the degree of M.D. from the University of Leyden about the year 1633, and that of Oxford in 1637. In the same year he settled in Norwich, and there practised as a physician all his life, living calmly amid the din and discord of the civil war, and maintaining an active correspondence with the antiquaries and scientists of his time. He was knighted by Charles II. in 1671. In 1840 his grave in St. Peter's, Mancroft, at Norwich, was discovered by some workmen, and his skull was placed in the hospital museum of the town. The *Religio Medici* ('Religion of a Physician') was written about 1634 for his own pleasure; but in 1642, an edition having been published without his sanction, he was compelled to publish, in 1643, an authorized edition, which had a great success. It reveals the pious musings of a man of simple faith on the subject of the spiritual life and the mysteries of the unseen. In 1646 appeared his *Pseudodoxia Epidemica, or Enquiries into . . . . Vulgar and Common Errors*, though he himself was a believer in alchemy, astrology, and witchcraft. In 1658 he published his *Hydriotaphia, or Urn-burial*, which for richness of dic-

tion can hardly be paralleled by any work in the English language. To this work was appended the *Garden of Cyrus*, a quaint conceit, treating of horticulture from 'Adam's time to that of Cyrus,' and showing that the quincunx, or number five, is found 'in roots of trees, in leaves, and everything.' Several tracts on morals and antiquities, attributed to him, were published (1683; new ed. 1712). See *Collected Works* (4 vols. ed. by Wilkin, 1835-6; ed. by C. Sayle, 1904, etc.), and Gosse's *Sir Thomas Browne* (English Men of Letters Series, 1905).

Browne, William (1591-?1643), English pastoral poet, was born at Tavistock. His poetic years were 1613-16, during which he produced *Britannia's Pastorals*, a rural descriptive narrative in his favourite Spenserian vein, and the more formal eclogues of *The Shepheard's Pipe* (1614). To the latter Christopher Brooke, George Wither, and John Davies of Hereford also contributed; while Ben Jonson, Michael Drayton, and Selden were numbered amongst Browne's friends. Browne wrote the epitaph, sometimes ascribed to Ben Jonson, on 'Sidney's sister.' He was tutor at Oxford to Robert, Lord Dormer of Wing. His works were collected and printed in 1772, and are also given in the fifth volume of Chalmers's edition of the poets (1810). They have also been edited (with Memoir) by W. Carew Hazlitt for the Roxburghe Club (1868); and Sir Egerton Brydges printed (1815) a number of his verses which had never been previously published.

Brownhills, vil., Staffordshire, England, on L. & N.W.R. and M.R., 5 m. N.N.E. of Walsall; has extensive coal mines. Pop. 15,000.

Brownian Movements, or Motions, are rapid vibratory motions observed in microscopic particles, both vegetable and mineral, when suspended in water, and first noticed by the botanist Robert Brown (*q.v.*) in 1827. The movements have often been mistaken for vital motions; but they are still apparent when the liquid containing bacteria has been sterilized. Jevons has proved that solid matter of every kind, when finely divided, gives evidence of Brownian movements.

Brownie, a term in Scottish tradition signifying 'little brown one,' and applied to a race chiefly remembered as occupying a servile position in houses and on farms. A typical specimen was the brownie who lived at Strathmiglo in Fifeshire. 'Every day he used to cross the water of Miglo by stepping-stones, and acted as the useful drudge at the Tower of Cash; and all he asked in return was to feed out of any dish he chose.' The chief of the Maclachlans had a brownie who was his personal attendant, and lived in one of the dungeons at Castle Lauchlan. Accounts vary, but the brownies are generally described as a naked people, with hirsute skins. Supernatural powers are also attributed to them. Some think that they were an early non-Aryan race, remembered in a dim and confused way by the peasantry. See Gnome and Dwarfs, James Hogg's *Brownie of Bodsbeck*, George MacDonald's *Sir Gibbie*, and John Buchan's *Watcher by the Threshold* (1902).

Browning, Elizabeth Barrett (1806-61), was born at Coxhoe, in the county of Durham, on March 6, 1806. Conflicting evidence both as to place and exact date may fairly be considered settled by Mr. Ingram (see below). Her girlhood was spent at Hope End in Herefordshire. From an early age an invalid—largely due to an accident to her spine—her health gave chronic anxiety till she was thirty-four, when her nervous weakness was increased by

the death of her only brother by drowning at Torquay. Four years later, however, she was (against her father's wish) married, in London, to Robert Browning, Sept. 12, 1846; and after the birth of their son, in Florence, early in 1849, she gained a fresh lease of life. For many years the Brownings lived in Florence, with intervals of residence in London and Paris, and latterly at Rome; and it was in her loved Florence, the city of her *Casa Guidi*, that, on June 29, 1861, she died.

Probably the most popular work of Elizabeth Barrett Browning was *Aurora Leigh.* It is possible, of course, that this famous 'novel in verse' found in its day a wider circle of readers; it is incredible, however, that the inner circle which loves poetry for its own beauty should rank that diffuse if beautiful work, or any other of the author's longer writings, with the matchless *Sonnets from the Portuguese*, the most personal expression, in English or any other literature, of a woman's love for a man. Already *Aurora Leigh* is among the masterpieces that are seldom read. In all the mass of Elizabeth Barrett Browning's poetry—none of it worthless, little of it uninteresting, most of it delightful—these *Sonnets*, together with one or two poems and lyrics, like the *Dead Pan* (1844) and *The Cry of the Children* (1844), are the enduring and classic part.

Works.—*An Essay on Mind* (anonymous), and the privately-printed poem *The Battle of Marathon* (1826); *Prometheus Bound*, etc. (1833); *The Seraphim* (1838); *A Drama of Exile*, and *Sonnets from the Portuguese*, etc., collected in *Poems* (2 vols. 1844; reprinted at New York as *A Drama of Exile*, etc., 1845); *The Runaway Slave at Pilgrim's Point* (1849); *Casa Guidi Windows* (1851); *Two Poems by E. Barrett and R. Browning* (1854); *Aurora Leigh* (1856-57); *Poems before Congress* (1860). Posthumous.—*Last Poems* (1862); *The Greek Christian Poets and the English Poets* (1863); *Selected Poems*, edited by Robert Browning (2nd ser. 1866, 1880); *Letters to R. H. Horne* (2 vols. 1876-7); *Earlier Poems* (1826-33, 1878). Collected Works.—2 vols., New York, 1871; 5 vols., London, 1890. See also Kenyon's *Poems of E. B. Browning* (1897), and *Letters of E. B. Browning* (1897). Life.—The most accessible monograph is that by J. H. Ingram, in the 'Eminent Women Series' (1888). See also Merlette's *La Vie et l'Œuvre de E. B. Browning* (1906), T. H. Ward's *English Poets* (1883), Miles's *English Poets* (1899), and *Dict. Nat. Biog.*

Browning, Oscar (1837), university lecturer in history, and principal of Cambridge University Day Training College (1891-1909). He graduated as fourth in the classical tripos (1860). From 1860 to 1875 he was an assistant master at Eton. He is a leading exponent of the training of teachers. As a Liberal he contested unsuccessfully Norwood (1886), E. Worcestershire (1892), and W. Derby (1895). Chief works: *Modern England* (1878), *Modern France* (1880), *Hist. of England* (4 vols. 1890), *The Citizen: his Rights and Responsibilities* (1893), *Charles* XII. *of Sweden* (1899), *Wars of the Century* (1903), *Hist. of Europe 1814-43* (1901), *Impressions of Indian Travel* (1903), *Napoleon: First Phase* (1905), *The Fall of Napoleon* (1907), and *Memories of Sixty Years* (1910).

Browning, Robert (1812-89), one of the two greatest poets of the long and brilliant Victorian era, was born at Camberwell, then an outlying suburb of London), May 7, 1812. Browning had a happy childhood in

a prosperous and well-ordered household, and enjoyed the careful training of affectionate and cultured parents. From boyhood he showed exceptional intellectual and literary tendencies, and when he was no more than twelve years old his father printed for him his poetic 'first-fruits,' under the title *Incondita.* He never went to a public school, nor to one of the great universities; though, when his education by a private tutor was finished, he attended, during the session of 1829–30, a course of lectures at University College, London. The most important educational event in the youth of Browning was his sojourn, in his twenty-second year (1833–4), in Russia and Italy. His first publicly-printed poems appeared (above the signature 'L.') in the *Monthly Repository* (1834). His earliest dramatic effort, *Strafford*, was produced by Macready at Covent Garden (May 1, 1837). From this date (by which time *Pauline* and *Paracelsus* had been published) Browning determinedly devoted himself to the art of poetry; and it is significant that the three greatest modern English poets—Wordsworth, Tennyson, and Browning—each consciously and scrupulously ordered life and circumstance to the one great end, never swerving, never despairing, never expending energy in any other direction. But the attention of the reading world was not easily won; and the poet's first important book—*Sordello* (1840)—did not cause any considerable flutter in the literary dovecotes of the day. Ordinary readers, blamed for obtuseness by enthusiasts, may take consolation in the circumstance that Tennyson himself, friend and admirer though he was, 'could make nothing of it.' 'There are,' he declared in effect, 'only two lines in *Sordello* that I can understand—the first and the last—and neither is true!' (*i.e.* 'Who will, may hear Sordello's story told;' and 'Who would, has heard Sordello's story told'). And Carlyle, it will be remembered, said that his wife had read *Sordello* through 'without being able to make out whether Sordello was a man, or a city, or a book.' On Sept. 12, 1846, after the issue of that marvellous series of dramatic and lyrical poems, in eight parts, published at regular intervals between 1841 and 1846, collectively grouped under the title *Bells and Pomegranates*, Browning married Elizabeth Barrett (see BROWNING, E. B.), already a poet far more widely known to the public than himself. This happy marriage belongs to the realm of poetry itself. A beautiful and dignified love sustained them during all their wedded years; and a son was born to them in March 1849, in Florence, where the Brownings had settled in the winter of 1847, and which, with several intervals, remained their 'home city' till the summer of 1861, when Mrs. Browning died. From the autumn of 1861 Browning resided in London (in Warwick Crescent, Paddington, till 1887, and then in De Vere Gardens, South Kensington), though with frequent and often prolonged visits to Italy. In November of 1889 he joined his son at the Palazzo Rezzonico (which he had purchased) in Venice, and, after a brief and painless illness, died there on December 12. On the last day of 1889 his body was laid in the Poets' Corner, Westminster Abbey.

The greatness of Robert Browning as a poet is beyond dispute. The spiritual secret of his mastery is revealed in his words spoken of Shelley: 'I prefer to look for the highest, not simply the high.' Great as has been his moulding influence on the character and mind of a vast

number of readers—to whom perhaps, in the main, the ethic of his poetry was of chief import—he has also enriched our literature with verse of enduring poetic beauty. At his highest reach he gave to English poetry, and particularly that which in form is at once dramatic and lyrical, a new field and a new outlook. In a hundred masterpieces—from *Pippa Passes* to the *Asolando* of his old age; from the superb verse of *Paracelsus* to the last 'flute-note with an accompaniment'—we may discern the master-mind of one who, beyond all cavil, is a great poet. Time and change will alone settle the question of 'the great thinker.' His spiritual message, as distinct from his poetic achievement, can be summed up in one line (in the prologue to *Pacchiarotto*): 'Hope hard in the subtle thing that's spirit.'

Works.—*Incondita* (privately printed, 1824); *Pauline* (1833); *Paracelsus* (1835); *Strafford* (1837); *Sordello* (1840); *Bells and Pomegranates* (1841-6), in eight parts—viz. 'Pippa Passes' (1841), 'King Victor and King Charles' (1842), 'Dramatic Lyrics' (1842), 'The Return of the Druses' (1843), 'A Blot in the 'Scutcheon' (1843), 'Colombe's Birthday' (1844), 'Dramatic Romances and Lyrics' (1845), 'Luria,' and 'A Soul's Tragedy' (1846); *Christmas Eve and Easter Day* (1850); *Two Poems by E. Barrett and R. Browning* (1854); *Men and Women* (2 vols. 1855); *Dramatis Personæ* (1864); *The Ring and the Book* (4 vols. 1868-69); *Balaustion's Adventure* (1871); *Prince Hohenstiel-Schwangau* (1871); *Fifine at the Fair* (1872); *Red Cotton Night-cap Country* (1873); *Aristophanes' Apology* (1875); *The Inn Album* (1875); *Pacchiarotto* (1876); *La Saisiaz and The Two Poets of Croisic* (1878); *Dramatic Idylls* (2 ser. 1879-80); *Jocoseria* (1883); *Ferishtah's Fancies* (1884); *Parleyings with Certain People* (1887); *Asolando* (1889-90). Collected Works.—The first 'collected edition' was published (*Collected Poems*) in 2 vols., in 1849; the next in 3 vols., in 1863; the third in 6 vols., in 1868; and the fourth in 16 vols., in 1888-9. Lately several cheap editions of the poetical works fallen out of copyright have appeared, as in the 'Canterbury Poets Series' (Walter Scott). An edition of *The Ring and the Book* is published in 'Nelson's Shilling Library.'

Besides these original writings, Browning published a translation of the *Agamemnon* of Æschylus (1877). He edited, also, *Selections from Mrs. Browning's Poems* (1866 and 1880), *Mrs. Browning's Poetical Works* (1889-90), and (in 1884) a book called *The Divine Order*, by the Rev. T. Jones.

Biographical and Bibliographical.—*Life of Robert Browning*, by William Sharp ('Great Writers Series,' 1890), with a bibliography; *Life and Letters*, by Mrs. Sutherland Orr (1891; new ed. 1908); *Robert Browning*, by Edmund Gosse (1890); *Life*, by W. H. Griffin and H. C. Minchin (1910); and many other critical and expository volumes, British and American, among which should be mentioned *The Browning Society Papers* (1881-90); and G. K. Chesterton's monograph in 'English Men of Letters Series' (1903; new ed. 1908).

Browning Settlement, York Street, Walworth Road, London, S.E. It includes a hall, men's home, tavern, club, Dale library of Christian sociology, homes for old folks at Whyteleafe, Surrey, and a holiday home at Horsham, Sussex. Its aim is to ameliorate the conditions of life in Southwark.

Browning Society, The. Founded in 1881 for the study

and discussion of Browning's works. It was dissolved in 1893, after having issued some valuable papers.

Brownists. See BROWNE, ROBERT.

Brown-Séquard, CHARLES EDWARD (1817–94), physician and physiologist, was born in Mauritius, his father being a native of Philadelphia, and his mother French. He graduated M.D. at Paris in 1846, and devoted himself to physiological investigations, making numerous discoveries in the composition of the blood, animal heat, the spinal column and its maladies, the muscular system, and especially the nervous system. After acting (1859–63) as physician to the Hospital for the Paralyzed and Epileptic in London, he became professor of physiology and pathology at Harvard in 1863, but returned to Paris in 1868, and became professor of pathology (1869–72) in the Faculty of Medicine. In 1872 he settled in New York as a medical practitioner, treating especially diseases of the nervous system; but in 1875 he was once more in Paris, where he succeeded Claude Bernard (1878) in the chair of experimental medicine at the Collège de France. He published lectures on *Physiology and Pathology of the Nervous System* (1860), *Paralysis of the Lower Extremities* (1860), and *Nervous Affections* (1873).

Brownson, ORESTES AUGUSTUS (1803–76), American author, born in Windsor county, Vermont. He was successively a Presbyterian, a Universalist, a Deist, and finally (1844) a Roman Catholic. He founded (1838) the *Boston Quarterly Review*, afterwards *Brownson's Quarterly Review* (1844–64), and most of his writings appeared in these periodicals. His works include *Charles Elwood, or the Infidel Converted* (1840), an account of his religious experiences; *The Spirit-rapper: an Autobiography* (1854); *The Convert, or Leaves from my Experience* (1857); *The American Republic: its Constitution, Tendencies, and Destiny* (1865). His collected works were published (1882–3), and a *Life* (1898-1900) by his son.—HENRY FRANCIS (1835), son of above, born at Canton, Mass. He translated Balmes's *Fundamental Philosophy* (1856), Tarducci's *Life of Columbus* (1891), *Life of John and Sebastian Cabot* 1893), and published *Faith and Science* (1895), *Equality and Democracy* (1897), and *Life of Orestes A. Brownson* (1898–1900).

Brown Spar, in mineralogy, is a term applied to a magnesian carbonate of lime, tinged by oxide of iron and manganese. It is also called *pearl spar*. See DOLOMITE, of which it is a variety.

Brownsville, city, Texas, U.S.A., co. seat of Cameron co., situated in the S. part of the state, on the Rio Grande, opposite Matamoros, Mexico, and 20 m. from the Gulf Coast. It has an important river traffic and extensive trade with Mexico. There is a Roman Catholic cathedral. Near Brownsville took place the last engagement between North and South in the civil war. Pop. 10,500.

Broxburn, mining tn., Linlithgowshire, Scotland, 12 m. W. of Edinburgh; coal mines, shale pits, paraffin works, brickfields, and chemical manure works. Pop. 8,000.

Brozzi, tn., Italy, 5 m. W. of Florence; manufactures straw hats. Pop. (comm.) 11,000.

Bruay. (1.) Mining vil., dep. Pas-de-Calais, France, 6 m. S.W. of Béthune. There are breweries in the place, and gas coal is mined in the neighbourhood. Pop. 16,500. (2.) Vil., dep. Nord, France, 3 m. N. by E. of Valenciennes. Pop. (comm.) 7,500.

Bruce. See ELGIN, EARLS OF.

Bruce, James (1730–94), African traveller, was born in Stirlingshire, Scotland. Proceeding to London, he (1754) became partner in a wine merchant's business; but giving this up in 1761, he became consul-general at Algiers in 1762. In 1768 he set out from Cairo on his famous journey to Abyssinia. After sailing up the Nile as far as Syene, he crossed the desert, and reached Jeddah in April 1769. From thence he penetrated to Gondar, the capital of Abyssinia, and in November 1770 he found the sources of the Bahr-el-Azrek, or Blue Nile, which was considered the main stream of the Nile. Bruce remained in Abyssinia about two years, and then made his way back to Alexandria, whence he proceeded, in March 1773, to France, where he spent some time in the society of Buffon and other distinguished *savants*. Returning to Scotland, he prepared for publication his *Travels to discover the Sources of the Nile*, which appeared in 1790 in five large quarto volumes. The strange details which Bruce gave about the Abyssinians and the Gallas led many to be sceptical regarding their truth, and among the doubters was Dr. Samuel Johnson. The author's general accuracy, however, has been verified by later travellers. See Murray's *Life of James Bruce* (1808).

Bruce, John (1802–69), English antiquarian and lawyer, born in London. He was brought up to the law, but this he abandoned (1840) to take up historical and antiquarian research. He edited the *Calendars of State Papers, Domestic Series, 1625–39* (1858–71), and wrote numerous historical tracts.

Bruce, John Collingwood (1805–92), English antiquary, was born at Newcastle; chose the profession of teaching, and succeeded (1834) to his father's school. This he relinquished in 1863, and devoted himself entirely to the study of Hadrian's Wall, and the work of the Newcastle Society of Antiquaries. His well-known books are, *Incised Markings on Stone* (1869), *Description of the Roman Wall* (1851), and *Handbook to the Roman Wall* (6th ed. 1909).

Bruce, Michael (1746–67), Scottish poet, born at Kinnesswood, Kinross-shire; became schoolmaster at Gairney Bridge, near Loch Leven, and at Forrest Mill, Clackmannanshire. His reputation rests mainly on the *Ode to the Cuckoo*, and on certain versified renderings of Scriptural passages included in the Scottish Paraphrases; but his claim to both has been disputed by David Laing and J. Small, in favour of that of John Logan, minister of South Leith, a college friend, who edited his *Poems on Several Occasions* (1770). The question has given rise to a long and heated controversy, but the balance of authority is in favour of Bruce. See the *Lives* by MacKelvie (1837), Grosart (1865), Stephen (1895), and Mackenzie (1905).

Bruce, Robert (1274–1329), king of Scotland, belonged to the Norman family De Bruis, which, in the person of Robert de Bruis, came to England with the Conqueror in 1066. This knight received large grants of land, chiefly in Yorkshire; and his son Robert, who was an associate of the prince who afterwards became David I. of Scotland, obtained the lordship of Annandale. The family thus held lands in both kingdoms, and this fact is the explanation of the somewhat tortuous policy pursued by them, as well as by others of the Norman barons whom David introduced into Scotland. At the battle of the Standard (1138), Robert Bruce, who had received the original grant of Annandale, fought on the English side; while his son, the third Robert, fought

under David, and was taken prisoner, it is said, by his own father. The fifth lord of Annandale, Robert de Bruis (1210–95), was a competitor with John Baliol for the crown of Scotland in 1290, claiming the honour as a son of the second daughter of David I. But in 1292 Edward I. awarded the crown to Baliol; and Bruce, to avoid recognition of his rival's claims, resigned to his son, Robert de Bruis (d. 1304), his Scottish lordship of Annandale. This sixth lord in turn did fealty to Edward I., and fought on the English side when Baliol was forced to throw off the English yoke. He claimed the throne which Baliol relinquished; but Edward refused, and the claims of the house of Bruce were inherited by his son, the greatest of the family, ROBERT BRUCE, who at first followed the family policy. In 1296 he swore allegiance to Edward I.; but he 'changed sides so often that it is difficult to follow his devious career.' In any case, the year 1306, which saw him finally break with Edward I., was the beginning of the salvation of Scotland. What the circumstances were which led him at Dumfries to murder Comyn, a nephew of Baliol, and a rival for the Scottish crown, are not clearly known; but the event meant at once a complete break with Edward I., who had favoured Comyn, and the hostility of half of Scotland which held by Comyn. But from 1306 Bruce faced the difficulties of his situation, and gradually won, by his ability and his success, the esteem and confidence of the people of Scotland, who had known many years of Edward's 'resolute' government. At first fortune was against him. He had himself crowned at Scone, where the poverty of his support was painfully apparent. Within a few months he was surprised at Methven, and defeated in the Highlands by the Lord of Lorn, an uncle of the murdered Comyn, and was forced to withdraw from Scotland and winter in the island of Rathlin, off the north coast of Ireland; while, to complete his misfortunes, his wife and his daughter Marjory were captured by the English, and his brother Nigel and many of his supporters were executed as traitors.

In 1307 the tide turned. Bruce landed at Turnberry, in Ayrshire, defeated the Earl of Pembroke at Loudon Hill, and made good his footing in Scotland again. In the same year the great Edward I. died at Burgh-on-Sands, and was succeeded by Edward II., who was not qualified to carry on the war against such a military leader as Bruce now proved himself to be. District after district owned Bruce's authority; castle after castle fell into his hands. English armies of invasion were checked by his policy of devastating the country before them; and the Scots soon gained strength and confidence enough to make counter-raids into England. In 1310 the Scottish clergy declared Bruce their lawful king, and thus the ban of excommunication which rested on him was practically removed. In 1313 Stirling Castle alone resisted his authority. This stronghold was sorely pressed by Bruce's brother Edward, who was induced rashly to accept a promise of its peaceful surrender if it was not relieved by the English before June 24, 1314. This meant a pitched battle between the two nations, on a site prescribed by the necessity of keeping the English out of Stirling; but whatever the anxieties of the king at this hazard, the result was the disastrous defeat of the English at Bannockburn. From 1314 Scotland was free, and Bruce devoted himself to securing the formal recognition of the sovereignty he had won. He had to deal not only

with obstinacy on the part of England, but with the influence of the Pope, who favoured the English; but eventually he achieved his purpose, and by the treaty of Northampton (1328) the independence of Scotland was acknowledged. The ultimate success of Scotland resulted from his policy of carrying on offensive war against England in the northern counties and in Ireland. The king's brother Edward, for whom, after Bannockburn, there was not room enough in Scotland, sought a legitimate opening against the English in Ireland, where he broke their power, but was himself killed at Dundalk in 1318.

Robert Bruce was as wise a king in peace as he was brave and skilful in war, and his policy was directed to the restoration of Scottish prosperity, and to the safeguarding of the land against English aggression. He encouraged the burghs, and first gave them a place in the Scottish Estates (Cambuskenneth, 1326); and he had the power to carry out, as well as the wisdom to devise. His career may be summed up in the words of Professor Hume Brown: 'At the beginning of his great enterprise the probability is that he was prompted solely by the desire of making good the claims of his own house. But as his work grew and prospered, he rose to the conception of a true patriot king.' He died at Cardross in 1329, and was succeeded by his infant son David II. By his will his heart was to be buried in Jerusalem. It was entrusted to Sir James Douglas to carry thither; but Douglas was killed fighting against the Moors in Spain. Bruce's heart was saved, and being brought back to Scotland, was buried in Melrose Abbey. His body was buried in Dunfermline Abbey. See *Lives* by Sir Herbert Maxwell (1899) and Murison (1899).

Bruce, William Speirs (1867), Antarctic explorer, born at Edinburgh, and educated at the university of that city. He distinguished himself as a geographer and naturalist. Among early appointments held by him were those of director of the Scottish Oceanographical Laboratory, assistant in *Challenger* Expedition Commission, and superintendent of Ben Nevis Observatory, 1895-6. But his most notable work has been done as an explorer. He has accompanied no fewer than five expeditions to the Polar regions. He acted as naturalist to the Scottish Antarctic Expedition, 1892-3; Mr. Andrew Coats's Expedition to Novaya Zemlya, Wiche Islands, and Barents Sea, 1898; and the Prince of Monaco's Expedition, Spitzbergen and North Polar regions, 1898, 1899, and 1906. He also accompanied the Jackson-Harmsworth Polar Expedition, 1896-7, as zoologist. He is best known, however, as the leader of the Scottish National Antarctic Expedition on board s.y. *Scotia*, 1902-4, the scientific results of which were of great value. Dr. Bruce has also explored and surveyed Prince Charles Foreland and Spitzbergen, 1906-9.

Brucea, a genus of Simarubaceæ, named in honour of the Abyssinian traveller. It consists of shrubs with compound leaves, flowers in heads, parts of the flower in fours, and stamens attached to a stalk supporting the four drupes. The stamens are sterile in the female flowers. The species are natives of Abyssinia, China, etc., and some of them possess properties similar to quassia, a drug furnished by a tree of the same natural order.

Bruch, Max (1838), German violinist, composer, and conductor, was born at Cologne. In 1865 he became director of the Musical Institution at Koblenz. From

1871 to 1873 he lived in Berlin, and afterwards at Bonn, devoting himself almost exclusively to composition. In 1878 he twice visited England, and in 1880 he succeeded Benedict as conductor of the Liverpool Philharmonic; but in 1882 he returned to Breslau, and in 1889 to Berlin. His popularity rests upon his compositions for choir and orchestra, of which nearly a dozen have enjoyed great favour, as *Szcenen aus der Frithjofsaga*, *Schön Ellen*, *Odyssey*, *Arminius*, *Lied von der Glocke*, *Römischer Triumphgesang*, *Wessobrunner Gebet*, *Normannenzug*, *Salamis*, *Thermopylä;* though he has also written two operas—*Lorelei* (1863) and *Hermione* (1872)—music for Schiller's *Jungfrau von Orleans*, and many religious and secular pieces, including violin concertos and symphonies.

Bruchsal, tn. and important railway junction, grand-duchy of Baden, Germany, 21 m. s. of Heidelberg. It was formerly the residence of the archbishops of Spires, whose palace still remains. There is a large convict prison. Pop. 15,000.

Brucine, or DIMETHOXY-STRYCHNINE ($C_{23}H_{26}N_2O_4$), is an alkaloid present in nux vomica and St. Ignatius's bean. It is a colourless crystalline solid, with a very bitter taste and similar properties to strychnine; but it is less poisonous, and gives a red colour with nitric acid. See STRYCHNINE.

Bruck. (1.) B. AN DER LEITHA (anc. *Mutenum* and *Leythæ Pons*), tn., prov. Lower Austria, Austria, 26 m. S.E. of Vienna, with a seat of Count Harrach, and in the vicinity a large permanent military camp. Pop. 5,500. (2.) B. AN DER MUR, tn., Styria, Austria, 33 m. N.N.W. of Graz. Iron industries are carried on. Pop. 8,000.

Brückenau, spa, dist. Lower Franconia, Bavaria, 35 m. N. of Würzburg, with carbonic acid waters which attract 1,500 visitors annually. Pop. 1,600.

Brucker, JOHANN JAKOB (1696–1770), German historian of philosophy, born at Augsburg; became a minister of the Reformed Church, but soon abandoned preaching for literature. His most important work is *Historia Critica Philosophiæ* (1742–44; new ed. 1766–7), a work of immense labour and high reputation; a portion of it was translated into English by W. Enfield (1791). In addition to this he wrote various other learned works, such as *Pinacotheca Scriptorum nostra Ætate Literis Illustrium* (1741–55), etc.

Brückner, ALEXANDER (1834–96), Russian historian of German descent, born in St. Petersburg; was professor of history at the law school in St. Petersburg from 1861–7, and in 1872 was appointed professor of Russian history at the University of Dorpat, but lost the appointment when the university was Russianized in 1891. Among his works are *History of the Russo-Swedish War from 1788–90* (1869, in Russian); *Kulturhistorische Studien: die Russen im Ausland; die Ausländer in Russland im 17 Jahrhundert* (1878); *Beiträge zur Kulturgeschichte Russlands im 17 Jahrhundert* (1887); *Die Europäisierung Russlands* (1888). He has also contributed the monographs *Peter der Grosse* (1879) and *Katharina II.* (1883) to Oncken's collection *Weltgeschichte in Einzeldarstellungen.*

Brückner, ANTON (1824–96), Austrian organist and musical composer, was born at Ansfelden, Upper Austria. In 1868 he was appointed organist of the imperial chapel at Vienna; professor at the conservatorium, and in 1875 lecturer on music at the university. Of his compositions, the best are his religious works—*e.g.* two masses, a *Te Deum*, etc.

He has also written nine symphonies showing an ultra-Wagnerian tendency.

Brudenell, JAMES THOMAS. See CARDIGAN, EARL OF.

Brueghel. See BREUGHEL.

Brueys, DAVID AUGUSTIN DE (1640–1723), French dramatist and theologian, was born at Aix. Educated in the religious principles of the Calvinists, he engaged in controversy on their behalf; but being converted by Bossuet, he entered the Roman Catholic Church, and wrote religious pamphlets from the new standpoint. He is best remembered by his plays, some of them written in collaboration with Jean Palaprat (1650–1721), the chief being *Le Concert Ridicule* (1689), *Le Grondeur* (1691), *Le Muet* (1691). De Brueys's original works are *Gabinie* (1699) and two or three other plays (some never performed), including *L'Avocat Patelin* (1706). His dramatic works were published in two volumes in 1712.

Bruges (Flem. *Brügge*), tn. and episc. see of Belgium, chief tn. of W. Flanders, 63 m. N.W. of Brussels and 8 m. inland from the North Sea, with which it is connected by two canals leading to Ostend and Sluis respectively, and by a third and much larger (230 ft. wide and 26¼ ft. deep) ship canal, constructed at a cost of over 1½ millions sterling, and officially opened in July 1907. Zeebrügge is the sea terminus. From the 12th to the 16th century Bruges was the largest commercial city in the north of Europe, a centre for the English and Scandinavian trade, as well as the emporium of Hanseatic, Venetian, and other Italian merchants, and had at the height of its prosperity a population of 200,000. At the present time it is a quiet, quaint mediæval place, traversed by canals, with small houses turning their gable ends towards the streets, and a great number of charitable and religious asylums, hospices, refuges, etc. The present cathedral (St. Salvator)—the old cathedral was destroyed by the French in 1799—is of all periods between the 12th and the 19th century. The church of Our Lady, also dating from the 12th century, contains the fine tombs of Charles the Bold, Duke of Burgundy, and his daughter Maria, wife of the Emperor Maximilian. Both churches, and also the church of St. James (13th to 19th century), are adorned with notable Flemish pictures; but the most valuable works of this description in Bruges are the small collection of Memling's pictures in the hospital of St. John. Amongst other public buildings are the Gothic town hall (14th century); the town chancellery (16th century); the famous belfry of Bruges (353 ft. high), built between the 13th and the 15th century, but equipped with its present carillon only in 1743; the museum and picture gallery, with valuable Flemish pictures; the museum of antiquities in the Gruuthuis, a 15th-century structure; the 14th-century (Poorters Loge) archives, the municipal library, a former palace of the dukes of Burgundy, the law courts (with a magnificent 16th-century fireplace), the chapel and museum of the Sacred Blood (12th century), and the Beguinage (13th century). In the lower part of the belfry is an archæological museum. Pop. 55,000. The foundation of Bruges goes back to before the 7th century. Its citizens played a prominent part in the bloody 'Flemish Vespers,' and the succeeding defeat of the French at Courtrai (1302). In the 15th century the sanding up of the seaway to and at Sluis, the growth of Antwerp, and the shifting of the centres of European commerce brought about by the

discovery of America and the sea route to India, tended (with certain political causes) to weaken and destroy the commercial supremacy of Bruges. The independent yet turbulent spirit of its people was shown in 1488, when they kept prisoner for some months the Roman king (afterwards emperor) Maximilian, and forced him to abdicate the government of Flanders. Its chief manufacture is lace. See W. C. Robinson's *Bruges* (1900), and Omond and Forestier's *Bruges and W. Flanders* (1906).

Brugg, a very quaint little mediæval tn. in the Swiss canton of Aargau, 19 m. N.W. of Zürich; commands 'the bridge' over the Aar, just above its junction successively with the Reuss (from Lucerne) and the Limmat (from Zürich). Pop. 2,400.

Brugger, FRIEDRICH (1815–70), German sculptor, born at Munich. In 1843 Ludwig I. of Bavaria commissioned him to execute marble busts for the Pantheon or Hall of Fame, and several bronze statues, such as *Gluck* (1848) and *Prince Max Emanuel* for Munich, *Field-marshal Wrede* for Heidelberg, *H. L. Fugger* (1857) for Augsburg, etc. But Brugger shows to greater advantage in mythological subjects, as *Penelope Longing for her Husband, Icarus and Dædalus*, and *Œdipus in Exile with Antigone.*

Brugsch, HEINRICH KARL (1827–94), German Egyptologist, was born at Berlin. He was sent by the Prussian government to Egypt in 1853, where he joined Mariette in the Memphis excavations. Appointed assistant curator of Berlin Egyptological Museum (1855), he visited Persia in 1860, and acted as German consul at Cairo (1864–8), returning to the chair of Oriental languages at Göttingen. In 1870 he became head of the Khedive's school of Egyptology at Cairo. On economical grounds he was dismissed from his post in 1879, and afterwards resided principally in Germany, making a visit to Persia in 1884 as member of a German embassy, and again visiting Egypt on behalf of the Prussian government. He died at Charlottenburg. Of his numerous works on Egyptology (over thirty), the most important are *Geschichte Aegyptens unter den Pharaonen* (1877; trans. 1880); *Dictionnaire Géographique de l'Ancienne Egypte* (1877–80); *Thesaurus Inscriptionum Ægyptiacarum* (1882–91); *Religion u. Mythologie der alten Aegypter* (1884–8). See his *Mein Leben und mein Wandern* (1894).

Brühl, vil., Rhineland, Prussia, 10 m. S.S.W. of Cologne, with lignite mines and a royal castle (1725–8). Pop. 7,500.

Brühl, HEINRICH, COUNT VON (1700–64), minister of Augustus III., elector of Saxony and king of Poland, whose position on the throne was established (1733) mainly by Brühl's assistance. From that date to 1746 he gradually got into his own hands the principal offices of state, and from 1746 ruled Saxony in his master's name. He brought the country to the verge of ruin, involving it in a war (1756–63) with Frederick II. of Prussia, who took his capital. After the death of the Elector Augustus, his favourite, dismissed by his successor, survived his master only three weeks. Brühl amassed great wealth, and his collection of 62,000 volumes forms part of the royal library at Dresden. See biographies, *Leben des Grafen von Brühl*, by Justi (1760–1), and *Zuverlässige Lebensbeschreibung d. Grafen von Brühl* (1766).

Bruises are the result of laceration of subcutaneous tissues, the skin itself being unbroken. They commonly result from direct violence, such as a blow with a blunt