

which aliens were allowed to acquire property, even real estate, but could not inherit it, or bequeath it at their death, the king becoming heir to all such property.

Aubanel, THÉODORE (1829-86), poet and dramatist of the Provençal language, and one of the leaders of the development of Provençal poetry, was born at Avignon, where he carried on the hereditary business of publishing. His works are *La Miougrano Entreduberto* (1860) and *Li Fiho J'Avignoun* (1885), both collections of poetry. He also wrote the dramas *Lou Pandou Pecat* (played at Montpellier in 1878 with great success), *Lou Pastre*, and *Lou Ravbatori*. See Ludovic Legré's *Le Poète Théodore Aubanel* (1894).

Aube, river, France. See SEINE.

Aube, dep., Central France, consisting for the most part of the parallel valleys of the Seine and its r. bk. trib. the Aube, flowing N.W. Area, 2,326 sq. m. The lower part of the valleys of the Seine and Aube belongs to the chalky, barren Champagne Pouilleuse, which only grows a little oats, rye, and buckwheat, and is planted for its amelioration with pines. The hilly district on the l. bk. of the Seine (Pays d'Othe), and the Baszigny, between the Aube and the Seine on the S.E., yield good crops of wheat, contain market gardens, and have several large forests. Horses are reared for the army. There are some quarries, but minerals are insignificant. Cap. Troyes. Pop. 244,000.

Aubenas, tn., dep. Ardèche, France, on riv. Ardèche, 12 m. S.W. of Privas. The silk industry employs 3,000 workmen; there is a small coal field, and some iron ore. Pop. 7,000.

Auber, DANIEL FRANÇOIS ES-PRIT (1782-1871), operatic composer, was born at Caen, France.

His first compositions were concertos for the violoncello and for the violin. His first dramatic composition was the resetting of an operatic libretto called *Julie*. Cherubini, after this, became (1812) Auber's instructor. His next work was a mass, from which he afterwards took the 'Prayer' which appears in *Masaniello*. His first two operas were unsuccessful; but his third, *La Bergère Châtelaine* (1820), was well received. Auber's subsequent collaboration with Scribe, the most successful of librettists, did much to enhance his musical reputation. Auber wrote over forty operas, including *Le Maçon* (1825), *La Muette de Portici* or *Masaniello* (1828), *La Fiancée* (1829), *Fra Diavolo* (1830), *Le Cheval de Bronze* (1835), *Le Domino Noir* (1837), *Les Diamants de la Couronne* (1841), *Zerline* (1851), written for Madame Alboni, and *Le Rêve d'Amour* (1869). Auber was appointed by Louis Philippe director of the Conservatoire, and by Napoleon III. Maître de Chapelle. He died in Paris.

Aubergine, or BRINJAL, is the fruit of *Solanum esculentum*, which belongs to the potato order, Solanaceæ, and is cultivated in France, where it was introduced from Brazil; but the plant probably found its way to America from Africa. It is purple, about the size of a lemon, and is cooked like a vegetable. A white variety is known as the egg-apple.

Aubervilliers, tn., dep. Seine, France, forms a suburb of Paris to the N.N.W. It contains numerous factories, mainly engaged in chemical industries. Pop. 34,000.

Aubignac, FRANÇOIS HÉDELIN D', ABBÉ (1604-76), French author, born at Paris, who owes his reputation to *Pratique du Théâtre* (1657; Eng. trans. 1684), a long exposition of the 'dramatic rules' of Aristotle. He illustrated his precepts in *Zéno-*

bie, a dull prose tragedy. He anticipated Wolf, denying that the Homeric poems were the work of one author. See Arnaud's *Etude sur l'Abbé d'Aubignac* (1887).

Aubigné, JEAN HENRI MERLE D' (1794-1872), French theologian and ecclesiastical historian, born at Eaux-Vives, near Geneva; appointed pastor of the French Protestant church at Hamburg (1818). Becoming court preacher at Brussels (1823), after the revolution of 1830 he returned to Geneva as professor of church history until his death. His greatest work, which in its day was very popular, is the *History of the Reformation in the 16th Century* (5 vols. 1835-53; Eng. trans. 1846-53). D'Aubigné also wrote the following works, all of which exist in English, most of them translated by the author—*The Protector: a Vindication* (1847); *Germany, England, and Scotland* (1848); *Three Centuries of Struggle in Scotland* (1849); and a *History of the Reformation in Europe in the Time of Calvin*.

Aubigné, THÉODORE AGRIPPA D' (1550-1630), French scholar and historian, was born in Saintonge. In the civil war he fought on the Huguenot side, and Henry IV. appointed him vice-admiral of Guienne and Brittany. After the assassination of Henry, in 1610, he went to Geneva, and devoted himself to literature. D'Aubigné's principal work, *L'Histoire Universelle, 1550-1601*, produced between 1616 and 1620, was condemned to be burned by the hangman. His *Tragiques* (1616; new ed. 1897) depict the horrors of the religious wars. His other books include a brilliant satire, the *Confession Catholique du Sieur de Sancy* (1660), the *Aventures du Baron de Fœneste* (1630), and the *Histoire Secrète* of himself. His *Life* appeared in 1772; his *Mémoires* were published by La-

lanne in 1854. An edition of his *Œuvres Complètes* appeared in Paris in 1873-92 in 6 vols. See studies of D'Aubigné by Réaume (1883), Morillot (1884), and Salis (1884).

Aubin, industrial tn., dep. Aveyron, France, 20 m. N.W. of Rodez, on a coal field (40 sq. m.) yielding from one million to one million and a quarter tons annually of easily-procured but not first-rate coal. Iron ore, clay, sulphur, and alum also occur. Pop. 10,000.

Aublet, JEAN BAPTISTE CHRISTOPHORE FUSÉE (1720-78), botanist; born at Salon, in the south of France; formed botanic gardens and pharmaceutical schools in Mauritius and French Guiana (1762), and in his expeditions made valuable collections of plants. He wrote *Hist. des Plantes de la Guyane Française* (1775).

Aubrey, JOHN (1626-97), antiquary, was born at Easton Pierse in Wiltshire. While at Trinity College, Oxford, he contributed to Dugdale's *Monasticon Anglicanum*, and in 1649 drew attention to the megalithic remains at Avebury, of which, in 1663, he wrote an account by command of Charles II. In 1663 he was admitted a member of the Royal Society, and after 1670 worked on antiquarian subjects along with Hobbes and Ashmole. He died at Oxford. His *Miscellanies* (1696) is a complete storehouse of quaint anecdotes with reference to supernatural subjects. His 'Minutes of Lives,' given by him to Anthony à Wood, and printed in *Letters by Eminent Persons* (1813), show him as a kind of 'immature Boswell.' His antiquarian researches in Surrey were published in five volumes by Rawlinson (1718-19); a similar collection for Wilts was privately printed by Sir T. Phillips in 1821. But the Ashmolean Museum at Oxford contains much still un-

published MS.; a fragment, *Remains of Gentilism and Judaism*, was printed by the Folklore Society in 1880. There is a good *Life of Aubrey* by J. Britton (1845).

Aubrietia, or PURPLE ROCK CRESS, wrongly named Purple Arabis, of the order Cruciferae, produces masses of violet, lilac, and purple colours, in borders and rock gardens, in spring. There are many varieties, mainly derived from *A. deltoidea*, introduced from the Levant in 1710.

Aubry de Montdidier, courtier of Charles V. of France, was assassinated (1371) by Richard Macaire. The murderer was discovered by the animosity of the victim's dog to him. To decide the case, Macaire was commanded by the king to fight the dog, was beaten, and confessed. The popular drama, *Le Chien d'Aubry*, is founded on this tradition, which is also known as *The Dog of Montargis*.

Auburn. (1.) City of New York, U.S.A., the co. seat of Cayuga co.; situated at the foot of Owasco Lake (which furnishes the city with water, and also supplies the power for extensive manufactures), 174 m. w. of Albany. It is the seat of the Auburn Theological Seminary (1819), and contains the state prison, which is widely known for the reformatory character of its discipline. Pop. 35,000. (2.) City of Maine, U.S.A., the co. seat of Androscoggin co., situated 34 m. N. of Portland and on the Androscoggin R.; manufactures boots and shoes, cottons, and furniture. Pop. 14,000.

Auburn-Lissoy, vil., par. of Kilkenny West, Co. Westmeath, Ireland, 8 m. N.E. of Athlone. It is famous as the scene of Oliver Goldsmith's *Deserted Village*, and the place where his boyhood was spent.

Aubusson, tn., dep. Creuse, France, picturesquely situated on the Creuse, 34 m. S.W. of Mont-

lucon; contains carpet and tapestry factories, one of them founded by Colbert (1665). This industry is said to have been introduced by the Saracens, who are supposed to have founded the town after their defeat at Tours (732 A.D.). Pop. 7,000.

Aubusson, PIERRE D' (1423-1503), was elected grand-master of the order of the Knights of St. John of Jerusalem (1476). He had previously distinguished himself against the Turks (1435), the English at Montereau (1437), and the Swiss at St. Jakob (1444). After his elevation to the grand-mastership he strove to create a confederation of the Christian powers against the Turks, and by his successful defence of Rhodes (May-July 1480) against an army of 100,000 Turks, checked their victorious course after the fall of Constantinople (1453). See Bouhours's *Histoire de Pierre Aubusson* (1676; abbreviated ed. 1887), and C. Torr's *Rhodes* (1887).

A.U.C. (Lat. *anno urbis condita*, 'in the year of the founding of the city'). In Rome a particular year was usually described by the names of the consuls for that year; but later Roman writers reckoned from the year of the founding of Rome—according to Varro, B.C. 753. Hence, to bring a date A.U.C. in accordance with Christian chronology, the date A.U.C. must be subtracted from 754 if B.C., but if a given date A.U.C. be greater than 753, 753 must be deducted to give the year A.D.

Aucassin et Nicolette, a celebrated French chantefable of the 12th century, written in alternate prose and assonant verse of seven syllables. It recounts the love of Aucassin, son of the Count of Beaucaire, for Nicolette, the captive daughter of the king of Carthage. Published in the Barbazan collection, bk. i., and also by Legrand d'Aussy, *Fabliaux et Contes*, bk. iii.; see also G. Paris's

Chrestomathie du moyen Age (1908). English editions by Bourdillon (1903), A. Lang (new ed. 1905), and Laurence Housman (1902).

Auch (the *Augusta Auscorum* of the Romans), tn., formerly cap. of Gascony, now of dep. Gers, France, on r. bk. of Gers, 100 m. s.s.e. of Bordeaux; is situated on a steep hill (540 ft.), approached from the river by a flight of 200 steps, and crowned by a Gothic cathedral; is the seat of an archbishop. There are manufactures of thread, cotton and woollen goods, and a trade in wines and brandy. Pop. 13,500.

Auchel, vil., Pas-de-Calais dep., France, 20 m. n.w. of Arras. Coal is mined. Pop. 11,000.

Auchenia, the genus to which the llama, alpaca, guanaco, and vicuña all belong. Though the nearest allies of these animals are the Old World camels, they themselves are entirely confined to S. America, and even as fossils are not known outside the American continent. They differ from the Old World camels in the smaller size, the absence of any dorsal hump, the woolly coat, the narrow feet with distinctly separated toes, the short tail, long and pointed ears, and in the detailed characters of the teeth.

Auchinleck, vil., E. Ayrshire, Scotland, 1 m. n. of Old Cumnock. Has coal and iron mines. Pop. 2,200. Auchinleck House ('Place Affleck'), the seat of the Boswells, is $\frac{3}{4}$ m. distant; Airdsmoss, of Covenanting fame, is $1\frac{1}{2}$ m. distant.

Auchinleck Press, a private printing-press established by Sir Alexander Boswell, son of Johnson's biographer, at Auchinleck, Ayrshire, in 1815. He possessed many rare and valuable mss., and after issuing, in 1812, the *Disputation between John Knox and the Abbot of Crossraguel* in facsimile, he produced rare old chap ballads

and scarce tractates bearing on history, etc.; reprinted the poems of Richard Barnfield (1816), and a series of valuable old poems issued under the title of *Fronde Caduceæ* (1816). For a list of books printed at Auchinleck, see *Sir A. Boswell's Poetical Works*, ed. by R. H. Howie (1871), Appendix. Sir Alexander bequeathed to the Advocates' Library, Edinburgh, the famous Auchinleck ms. made use of by Scott for his *Minstrelsy of the Scottish Border*, while in March 1905 an Australian presented to the library Sir Alexander Boswell's *Consultation and Fee Book*.

Auchmuty, SIR SAMUEL (1756-1822), English soldier, was the son of an Episcopalian clergyman in New York. He went to India, where he served against Hyder Ali, and also against Tippoo Sultan at Seringapatam (1792). He was also engaged in the capture of Monte Video (1807); appointed commander-in-chief at Madras (1810); captured Java (1811); but it was as adjutant-general to Sir David Baird in his march across the desert to the Nile (1801) that he became a popular hero. See Hook's *Life of Sir David Baird* (1832).

Auchterarder, burgh and mrkt. tn., Perthshire, Scotland, 14 m. s.w. of Perth; manufactures woollen shirtings and boots, has flour and saw mills. The Earl of Mar burned the town in 1716. Here began the struggle which resulted in the disruption of the Church of Scotland in 1843. Pop. 2,300. See Inglis's *An Angus Parish* (1904).

Auckland. (1.) Provincial dist., the n. division of New Zealand, comprising nearly half of North Island. Area, 25,746 sq. m.; length, 365 m.; greatest breadth, 180 m. Hilly, well timbered, and well watered, and has an extensive seaboard, with many good harbours. Kauri timber and gum and sub-tropical fruits are peculiar to this district. In the

Thames and Coromandel counties are large gold fields (quartz reefs). The Waikato basin is the most fertile region. In the s. are the Hot Lakes district (see ROTORUA) and Lake Taupo. Chief exports: wool, gold, kauri gum, timber, and flax. The district was the first settled, contains two-thirds of the Maoris, and was the scene of the war against Honi Heke and the Waikato war. White pop. 212,000. (2.) The largest and most picturesque city in New Zealand, on Waitemata Harbour, in the n. of North Island, with extensive shipping accommodation and two large graving docks, one of them, the Calliope Dock, the largest in Australasia. Standing on a volcanic isthmus 6 m. wide, the 'Corinth of the South,' with two harbours—Waitemata (E.) and Manukau (W.)—it is connected by rail with its w. port, Onehunga; and is built on undulating ground, with many handsome public buildings, including a free library and art gallery and museum. Among its chief industries are boiler works, sawmills, timber companies, shipbuilding yards, glass works, and a sugar refinery. Founded in 1840 by Governor Hobson, who named it after Lord Auckland, it was the colony's seat of government until 1865. Pop. 38,000; with suburbs, 82,000.

Auckland, GEORGE EDEN, EARL OF (1784-1849). He supported the reform party; was President of the Board of Trade (1830), First Lord of the Admiralty (1834), and governor-general of India (1835-41), and was responsible for the first Afghan war. He was created Earl of Auckland in 1839.

Auckland, WILLIAM EDEN, BARON (1744-1814), English politician and diplomatist, son of Sir Robert Eden, Bart., of W. Auckland, Durham. Entering the House of Commons (for Woodstock), he joined Lord North's

party; was a devoted follower of Pitt, who sent him as minister-plenipotentiary to France, where he negotiated a commercial treaty (1786); and was ambassador to Spain and then to Holland. Created an English peer (1793), he was Postmaster-General (1798-1801). He wrote *Principles of the Penal Law* (1772) and *History of New Holland* (1787). See his *Journals and Correspondence* (1860-2).

Auckland Islands, a group of uninhabited, mountainous, volcanic, peaty, wooded islands about 180 m. s. of New Zealand, to which they belong. Total area, about 350 sq. m. The largest Auckland I., about 27 m. by 15, has two good harbours. Discovered in 1806 by Bristow, and annexed by Great Britain in 1886. The New Zealand Government maintains a depôt of provisions and clothing, for the use of shipwrecked mariners, on the largest island of the group.

Auction, a mode of selling property by which the vendor agrees to sell to the highest bidder. An auction sale is nominally made subject to printed conditions of sale, which are distributed before the sale, together with particulars of sale, or an exact description of the property submitted to auction. The sale proceeds by increased biddings (hence the term auction) until no more offers are forthcoming, when the property is 'knocked down' to the highest bidder, unless a reserve price has been fixed by the vendor, when the property may be withdrawn if that price has not been reached. The vendor may expressly reserve a right to bid, but a conspiracy between the vendor and others to enhance the price by sham biddings would make the sale void; and, on the other hand, if there be any attempt by the highest bidder to prevent others from bidding, that would justify the vendor in declining to complete

the sale. But there appears to be nothing to prevent two persons from agreeing not to bid against each other. In England a bid may be retracted at any time before the property is knocked down; but this is probably not the law in Scotland (except in the case of sales of goods under the Sale of Goods Act, 1893), because by Scots law consideration is not essential to a binding contract.

A DUTCH AUCTION is an auction in which the property is put up at the highest possible price, and the price is lowered till some one bids, when the property is at once knocked down.

In an AUCTION BY CANDLE the bids continue while a bit (generally an inch) of candle burns, and the last bidder before the light goes out is the purchaser. In Scotland an auction is called a 'roup,' and conditions of sale 'articles of roup.' The vendor is called the 'exposer.' Reserve prices are uncommon, but an upset price is general. See Bateman's *Law of Auctions* (7th ed. 1895).

Auctioneer, a person employed to sell property by public auction. He has no implied authority to sell by private contract. He is the agent both of the seller and the buyer, and his signature to the memorandum of sale will bind both parties. He can sue the purchaser in his own name. He should sell for ready money only. He has authority to receive the purchase money for goods, but in the case of land only the deposit, unless expressly authorized. He cannot buy the property himself. He is liable to an action for selling goods to which his employer had no title, except in cases where the latter is protected by the Factors Acts. By the Auctioneers Act, 1845, an auctioneer requires an annual licence costing £10; but no licence is required to sell under an order of

the court, or under a distress for rent for any amount less than £20, or under the Small Debts Act in Scotland, or for selling fish when first landed on the seashore. The penalty for carrying on business without a licence is £100. He must produce his licence on demand by a revenue officer, and exhibit his name and address in a conspicuous part of the room during a sale. In Scotland, under the Taxes Management Act, 1880, an auctioneer must give three days' notice in writing to the collector of taxes of the district of the date of an auction, and the name and address of the person whose goods are to be sold. See Bateman's *Law of Auctions* (7th ed. 1895).

Aucuba Japonica, a Japanese shrub of the order Cornaceæ; grows to a height of a few feet, and bears large mottled evergreen leaves and red berries. The female plant was introduced to Britain in 1783, and the male in 1862.

Aude. (1.) Unnavigable riv. of France, rises in dep. of Pyrénées-Orientales, crosses the dep. of Aude N. and E., and falls into the Mediterranean after a course of 139 m. (2.) Maritime dep. of S. France, with a frontage of 32 m. to the Mediterranean. Area, 2,448 sq. m. The N. of the dep. lies on the s. slopes of the Montagne Noire (highest point Pic de Nore, 3,970 ft.); whereas between the Aude and the sea runs the Chaîne des Corbières. The highest point is Pic de Madrès (8,100 ft.), in the extreme s. Along the shore are numerous lagoons in a malarial district, mentioned by Pliny. The rest of the department, however, enjoys a very healthy climate, especially agreeable in autumn. Several localities with mineral springs are much frequented. All sorts of fruit, from chestnut to grape and olive, ripen on the slopes of the hills, and the summits afford good pastures. The honey of Nar-

bonne is famous. The working of wool and the making of wooden utensils, as barrels, etc., are the chief industries. The quarries yield some plaster, slate, and marble (used for the castle in Versailles), and there is some iron ore. Cap. Carcassonne, 390 m. s. of Paris. Pop. 308,000.

Audebert, JEAN BAPTISTE (1759-1800), naturalist and painter; born in Rochefort; studied in Paris; produced *Histoire Naturelle des Singes* (1800), with 62 plates, printed in oil colours by a process of his own invention. His *Hist. des Colibris, des Oiseaux-Mouches, des Jacamares, et des Promerops* (1802) and *L'Histoire des Grimpereaux, et des Oiseaux de Paradis* (1803) were completed by Desray after Audebert's death. He was the first to use gold leaf in illustrating the plumage of birds.

Audenarde, Belgium. See OUDENARDE.

Audenshaw, par. and tn., Lancashire, England, 6 m. E. of Manchester. Cotton mills and engineering works. Pop. 7,500.

Audh. See OUDH.

Audhumla, in Scandinavian mythology, was the cow whose milk nourished the giant Ymir, the first created being, and his race.

Audiffret - Pasquier, EDME ARMAND GASTON, DUC D' (1823-1905), French statesman, was born in Paris. At first a supporter of the Orleanists, he subsequently supported the moderate Republicans. He was the first person elected life senator by the National Assembly, of which he became president in 1875, being appointed president of the Senate in 1876. He was elected to the Academy in 1879.

Audincourt, tn., Doubs dep., France, 45 m. N.E. of Besancon. Has iron foundries and tinplate works. Pop. 7,600.

Audiometer, an instrument, invented by Professor Hughes in

1879, to measure with precision the sense of hearing. It consists of an adaptation of the telephone.

Audiphone, contrivance for improving the hearing of persons partially deaf. It consists of a thin fan-shaped sheet of ebonite or other suitable material pressed against the upper front teeth, and capable of being varied in convexity. Sound vibrations are conveyed through the bones of the head.

Auditor. An auditor is a person employed to examine and report upon the financial condition of a business, public office, or undertaking. Except in so far as they are regulated by statute, his duties rest on contract; but an auditor is liable for negligence, and as an expert he is expected to show the diligence and skill required of professional men generally. His examination of the books should not be perfunctory or merely arithmetical, but he should ascertain that they give a true account of the undertaking—*e.g.* that sufficient allowance is made for depreciation and bad debts, that profits have been properly earned, that the expenditure has been justifiable, and that the assets have not been overvalued. By the Companies Act, 1900, every company must appoint an auditor at the annual general meeting; and if none is appointed, the Board of Trade may appoint one on the application of any member. He is entitled to access to the books of the company, and must state in his certificate whether his requirements have been satisfied, and whether the balance-sheet gives a true account of the company's position as shown by the books. In the case of building, friendly, and industrial societies, and of public bodies—such as county councils, municipal corporations, school boards, and many others—one of the chief duties of an auditor is to see that

the expenditure is authorized by the constitution of the spending authority. The public accounts are audited by the Exchequer and Audit Department at Somerset House, regulated by the Exchequer and Audit Act, 1866. The auditor of the court of session in Scotland is an officer appointed by the crown to audit the expenses of parties in cases before the court. His duties correspond to those of a taxing-master in England, but he is also allowed to audit any accounts between agents and their clients privately submitted to him. He also taxes accounts remitted to him by the accountant of the court, and the expenses of arbitrations under the Lands Clauses Acts. Auditors are also appointed in the sheriff courts by the sheriff. See Pixley's *Auditors, their Duties and Responsibilities* (1896).

Auditory Nerve, the special nerve for the sense of hearing. Two of them rise as the eighth pair of cranial nerves, or, as sometimes described, as the *portio mollis* ('soft part') of the seventh pair, from the medulla oblongata, and pass downward one to each ear. See BRAIN and EAR.

Audley, par. and tn., Staffordshire, England, 5 m. N.W. of Newcastle-under-Lyme. Coal and ironstone are mined. Pop. 14,000.

Audley, SIR JAMES (?1316-69), a 'first founder' of the Order of the Garter (1344), is famous as a brave companion of the Black Prince. His chief exploits were at Poitiers (1356). The Black Prince appointed him governor (1362) of Aquitaine.

Audley, THOMAS, Baron Audley of Walden (1488-1544), lord chancellor of England; an Essex man; was a member of Wolsey's household; became Speaker of the House of Commons (1529), and in 1533 was elevated to the lord chancellorship through his subserviency to Henry VIII. He pre-

sided at the trials of More and Fisher. He was created a peer in 1538. See Hall's *Chronicle* (1809); Campbell's *Lord Chancellors* (1856).

Audouin, JEAN VICTOR (1797-1841), naturalist, born at Paris; was appointed (1833) professor of entomology at the Paris Museum of Natural History. He investigated certain plant diseases affecting French industries, especially those of the silkworm and vine. He wrote, in conjunction with Milne-Edwards, *Histoire des Insectes nuisibles à la Vigne* (1842), and contributed the section on insects to Cuvier's *Règne Animal* (1817).

Audran, a family of French artists. The best known are: GÉRARD (c. 1640-1703), engraver; developed a system of engraving that reproduced the breadth and tone of the original picture. His best-known works are *Les Batailles d'Alexandre*, after Lebrun. JEAN (1667-1756), engraver; his masterpiece is *L'Enlèvement des Sabines*, after Poussin, and other works after Rubens, Veronese, and Lebrun. CLAUDE II. (1644-84), painter, pupil of Lebrun, whom he copied closely. He decorated with frescoes the gallery of the Tuileries and the grand staircase at Versailles. CLAUDE III. (1658-1734), known as a painter of the extreme grotesque and ornamental.

Audran, EDMOND (1842-1901), musical composer, born at Lyons; was originally intended for the church, but turned to music, and became choirmaster at Marseilles. His *Grand Mogul*, an operetta (1864), first brought him prominently into notice. It was followed by *Olivette*, *La Mascotte*, *La Cigale*, *La Poupée*, etc., all of them graceful, sparkling, and melodious light operas.

Audsley, GEORGE ASHDOWN (1838), architect and art writer, born at Elgin, Scotland; in practice in New York since 1892.

His works include a *Handbook of Christian Symbolism* (1865), *The Art of Chromolithography*, and a number of sumptuous volumes on Japanese art, including *The Ornamental Arts of Japan* (1882-6), (with J. L. Bowes) *Ceramic Art of Japan* (1875-80), and *The Art of Organ Building* (1903).

Audubon, JOHN JAMES (1780-1851), American ornithologist, born at Mandeville, Louisiana; educated at Paris, where he studied drawing under David. On his return (1798) he spent a good deal of his time exploring the American forests, making drawings of birds, and studying their habits. In 1826 he came to England, and exhibited to ornithologists the richness of American bird life. His *Birds of America* (1828-40) was characterized by Cuvier as 'the most magnificent monument that art has yet raised to ornithology.' His other works include *American Ornithological Biography* (5 vols. 1831-9); *Synopsis of the Birds of N. America* (8 vols. 1839). See *Life* by Buchanan, from materials supplied by his widow; Coues's *Audubon and his Journals* (1897); and see also the appendix to Coues's *Birds of the Colorado Valley* (1898).

Aue, tn., dist. Zwickau, Saxony, on the Mulde, 20 m. s.s.w. of Chemnitz; manufactures machinery, lace, silver goods, furniture, linens, etc. Pop. 17,000.

Auenbrugger von Auenbrugger, LEOPOLD (1722-1809), Austrian physician, born at Graz; studied in Vienna, and practised in the Spanish hospital there (1751-68). He introduced the method of diagnosing chest and abdominal diseases by percussion. He published *Inventum novum ex Percussione Thoracis humani interni Pectoris Morbos detegendi* (1761).

Auer, ALOYS, BARON VON WELSBACH (1813-69), born at Wels,

Upper Austria, director of the Imperial Printing Office in Vienna from 1841 to 1868; inventor of *Nature Printing by Photography*; issued (1844) the Lord's Prayer in over six hundred languages in Roman type and over two hundred with the national alphabets (1747).

Auer, HANS (1847), Swiss architect, born at Wädenswil in canton Zürich; worked and taught in Vienna (1869-79); was chosen to design new federal administrative offices and house of parliament at Bern in 1885 (completed 1902); appointed professor of architecture at Bern in 1890.

Auerbach, tn., Zwickau dist., Saxony, Germany, 35 m. s.w. of Chemnitz. Pop. 10,000.

Auerbach, BERTHOLD (1812-82), German author, of Jewish descent, and a native of the (Württemberg) Black Forest. He was an enthusiastic disciple of Spinoza, whose works he translated, and who appears as the hero of his novel *Spinoza* (1837). The work by which he achieved fame is his *Schwarzwälder Dorfgeschichten* (1843-54), chiefly sketches of life in the Black Forest. The most characteristic amongst these are *Die Frau Professorin*, *Der Lauterbacher*, *Ivo der Hajrle*; and, among other novels, he wrote *Baarfüssle* (1856; 34th ed. 1902), *Edelweiss* (1861), *Joseph im Schnee* and *Der Landhaus am Rhein* (1861), and *Waldfried* (1874), some of them being heavily charged with philosophic disquisition. There is a new edition of his works (18 vols. 1893-5), and a new edition of the *Schwarzwälder Dorfgeschichten* alone (10 vols. 1900). See E. Lasker's *Berthold Auerbach* (1882) and Bettelheim's *Berthold Auerbach* (1904).

Auerbach's Keller, a scene in the legend of Faust, utilized by Goethe in the first part of his drama, is a wine cellar and restaurant in Leipzig.

Auersperg, ANTON ALEXANDER, COUNT VON (1806-76), whose pen-name was ANASTASIUS GRUN, Austrian poet; one of the very few allowed to sing of liberty during the sway of Metternich. His principal works are *Spaziergänge eines Wiener Poeten* (1831; 7th ed. 1876), *Schutt* (1836; 14th ed. 1890), and *Gedichte* (1837; 18th ed. 1893). As a politician he played an active part in the provincial parliaments of Styria (1867, etc.) and Carniola (1861-7), and in the constitutional assemblies (Frankfort, etc.) of 1848. There is an edition of his *Gesammelte Werke* in 5 vols. (1877).

Auerstadt, vil., Prussia, 32 m. s.w. of Halle. Here, on Oct. 14, 1806, the French under Davoût defeated the Prussians with great slaughter. The Duke of Brunswick fell. Pop. 600.

Aufrecht, THEODOR (1822-1907), Sanskrit scholar, born at Leschnitz, in Upper Silesia; studied under Bopp, Böckh, and Lachmann at Berlin, and in 1852 went to Oxford, where he compiled a catalogue of the Sanskrit MSS. (1859-64) in the Bodleian Library, and assisted Max Müller with his edition of the *Rigveda* (1877). He was professor of Sanskrit at Edinburgh (1862-75) and at Bonn (1875-89). He also issued two other important works—*Die umbrischen Sprachdenkmäler* (1849-51), dealing with the comparative philology of the old Italian tongues; and *Catalogus Catalogorum: an Alphabetical Register of Sanskrit Works and Authors* (1891-6)—and founded the *Zeitschrift der vergleichende Sprachforschung* (1852).

Augarten, beautiful park of Vienna, Austria, laid out in the French style; thrown open to the people by the Emperor Joseph II. in 1775.

Augean Stables. See HERCULES.

Augereau, PIERRE FRANÇOIS CHARLES, DUKE OF CASTIGLIONE

(1757-1816), French soldier; gained distinction in Napoleon's campaigns in N. Italy, especially at Lodi (1796), Castiglione, and Carmignano, and shared the honour of Arcola (1796). Made a marshal in 1804, he served in the battles of Jena (1806), Eylau (1807), and Leipzig. On the return of Louis XVIII. he made his submission and retained his rank, but refused to act as a member of the military tribunal on Marshal Ney. During the 'Hundred Days' he unsuccessfully endeavoured to conciliate and rejoin Napoleon, thus incurring the displeasure of the Bourbons.

Aughrim, or AGHRIM (anc. *Eachraim*), vil. and par., Co. Galway, Ireland, 3 m. w.s.w. of Ballinasloe station, on the railway to Dublin. Here William III.'s general, Ginkell, met and defeated a combined Irish and French force, adherents of James II., whose general, St. Ruth, was killed in the battle. See Lodge's *Political History of England*, viii. 359 (1910).

Augier, GUILLAUME VICTOR EMILE (1820-89), French dramatist, born at Valence. His first success, *La Ciguë* (1844), dealt with classical times, *L'Aventurière* (1848) with the renaissance, but in *Gabrielle* (1849) he showed his real talent for present-day comedy. All these were written in verse, as were also *Diane* (1852), *Paul Forestier* (1868), and two or three others. In 1854 he produced *Le Gendre de M. Poirier*, written in collaboration with Jules Sandeau, in which the modern French drama broke away from the artificiality of Scribe and his imitators. Augier's dramatic history after this was a series of triumphs, especially with *La Pierre de Touche* (written with Sandeau, 1853), *Le Mariage d'Olympe* (1855), *Ceinture dorée* (1855), *Les Lionnes Pauvres* (with E. Foussier, 1858), *Les Effrontés* (1861), *Le Fils de Giboyer* (1862),

Maître Guérin (1864), *Jean de Thommeray* (1873), *Madame Caverlet* (1876), *Les Fourchambault* (1879). Several of these are sharp satires upon contemporary manners and ideas. His collected dramatic works appeared in 1890. There are biographies by 'un Valentinien' (1896) and Morillot (1901).

Augite, a common rock-forming mineral, most abundant in the crystalline igneous rocks, and often an essential ingredient in basalt, andesite, and picrite. It is usually black, occurring in small crystals of the monoclinic system, as well as in irregular grains. It may be distinguished from amphibole or hornblende by the shorter, stouter crystals and less perfect cleavage. The hardness is $5\frac{1}{2}$, and sp. gr. 3.3. Augite decomposes into chlorite, uralite, and serpentine, and these secondary products, being usually green, have given the name 'greenstones' to decomposed crystalline rocks in which augite is present.

Augmentation. See BENE-FICE, TEINDS.

Augmentation, in music, is the reproduction or imitation of a theme or subject by doubling the time value of the notes in which it was first introduced.

Augmentation, HONOURABLE, in heraldry, an additional charge to a coat-of-arms usually granted by the sovereign for distinguished service, and generally borne on the escutcheon or a canton.

Augsburg, tn., dist. Swabia, Bavaria, on the l. bk. of the Lech, a trib. of the Danube, 39 m. by rail n.w. of Munich. Many of its houses were built in the 16th and 17th centuries, and its mediæval walls were not taken down until the end of the 19th century. Its prominent edifices include the cathedral (begun in 995, but reconstructed in 1321-1431), the 17th century town hall, with a magnificent so-called Golden Hall (108 ft. long, 56 ft. wide, 46 ft.

high), the Maximilian Museum, the Royal Picture Gallery, St. Ulrich's and other churches, the picture gallery, and the palace and 'bathrooms' of the Fugger family, former merchant princes of the town. Having abundant water-power, Augsburg is the seat of large cotton, machinery, thread, woollen, and paper factories, of breweries, and calico-printing and dye works. Pop. 95,000. Augsburg, which was founded by Drusus in 15 B.C., was in the 15th and 16th centuries an emporium of the trade between N. Europe, Venice, and the Levant. See *Die Chroniken der Schwäbischen Städte Augsburg* (1865-96).

DIET AND CONFESSION OF AUGSBURG. In June 1530 the Diet of Augsburg met, Charles v. being present in person. Charles, in alliance with the Pope, was prepared to attempt a settlement of the religious difficulties in Germany. The Protestants were anxious for reconciliation, and this desire was expressed in the 'Confession of Augsburg,' which was presented to the Diet. The aim of the Confession, composed for the greater part by Melancthon, was to show that Luther's opinions were not heretical.

Augsburg Interim, THE. In Sept. 1547 a Diet met at Augsburg, and Charles v. was present. He had every hope of re-establishing the unity of the church, and therefore had the *Interim* drawn up by theologians from both sides. It allowed clerical marriages, certain doctrinal changes, but retained all seven sacraments, worship of Virgin, and reaffirmed the doctrine of transubstantiation. On May 19, 1548, it was accepted by the Diet, but neither by the Romanists nor by the Protestants.

Augur and **Auspex** were the names given at Rome to the diviners, and mean primarily 'diviners by birds.' Yet there

were several kinds of portents from which auspices could be taken—*e.g.* celestial signs, particularly thunder and lightning; the flight of birds; the feeding of the sacred chickens; the behaviour of four-footed animals; various unlucky events (*signa ex diris*). The college of augurs originally consisted of three patricians; but, by the Ogulnian law of 300 B.C., it consisted of five plebeian augurs and four patricians; and in later times the number was increased to fifteen, all of whom were appointed for life. Roman augury did not profess to tell the future, but merely to decide on the advisability of a given line of action. Strictly, the right of taking auspices belonged to the chief magistrates, the augurs being only their assistants; but the augurs formed a permanent guild, and men of distinction like Cicero were proud to hold an augurship. See DIVINATION; also Rubino's *Römische Verfassung* (1839), Bouché-Leclercq's *Hist. de la Divination dans l'Antiquité* (1879), and W. Warde Fowler's *Gifford Lectures* (1910).

August, MONTH OF. See YEAR.

Augusta, name of several ancient cities built by or called after Augustus and other Roman emperors: *Augusta Allobrogum*, now Geneva; *Augusta Cæsarea*, now Saragossa; *Augusta* or *Julia Gaditana*, now Cadiz; *Augusta Prætoria*, now Aosta; *Augusta Taurinorum*, now Turin; and *Augusta Vindellicorum*, now Augsburg.

Augusta (Ital. *Agosta*), fort. seapt. tn., prov. Syracuse, Sicily, on the Mediterranean, 19 m. by rail N. of Syracuse. Vines and olives are grown, salt is prepared, and fishing is carried on. Here in a naval battle with the French the Dutch Admiral Van Ruijter was killed (1676). In 1693 the town was greatly damaged by earthquakes. Pop. 17,000.

Augusta. (1.) City, Georgia, U.S.A., co. seat of Richmond co., situated on Savannah R., at the Falls, 170 m. E. by S. of Atlanta; one of the principal cotton centres of the south. It is a growing health resort. It was captured by the British in 1779, and again in 1780. Pop. 50,000. See Jones and Ducher's *Memorial History of Augusta* (1890). (2.) City, Maine, U.S.A., the co. seat of Kennebec co. and the capital of the state, situated on the Kennebec R., at the head of navigation, 45 m. from the mouth. Industries include paper, lumber, and cotton mills. Pop. 12,000.

Augusta, MARIE LUISE KATHARINA (1811-90), German empress, daughter of Charles Frederick, Grand-Duke of Saxe-Weimar. On June 11, 1829, she married William, Crown-Prince of Prussia, afterwards the Emperor William I.

Augustales. (1.) Games in honour of Augustus held at Rome and in other parts of the empire. After B.C. 11 the senate decreed their celebration annually on the birthday of Augustus. (2.) Two classes of priests, one at Rome (*sodales augustales*) and the other in the municipia, instituted by Tiberius to attend the worship of Augustus and the Julia gens. They numbered twenty-one, together with certain members of the imperial family, and were selected from the principal persons in Rome. In the municipia they are supposed to have been wealthy *libertini*. They formed a collegium, and were appointed by the *decuriones*, or senate of the municipia. The six chief members were called *seviri*.

Augustan Age, a term applied to the period of the Roman emperor Augustus (31 B.C. to 14 A.D.). The great names of the Augustan age were Ovid, Horace, Livy, Virgil, and Catullus. (See LATIN LANGUAGE AND LITERATURE.) The expression is also associated

with the age of Queen Anne and the early Georges in English literature, and with the reign of Louis XIV. in French history.

Augusta Prætoria, Italy. See AOSTA.

Augusta Victoria (1858), German empress and queen of Prussia, daughter of Frederick, Duke of Schleswig-Holstein. In 1881 she married Prince William of Prussia, now William II.

Augustenburg, seaside resort on the Baltic, in the Prussian prov. of Schleswig-Holstein, at the head of a bay of Alsen I., 20 m. N.E. of Flensburg. Pop. 700.

Augusti, JOHANN CHRISTIAN WILHELM (1772-1841), Protestant theologian, born at Eschenberga, near Gotha, Germany. His chief works are *Lehrbuch der christlichen Dogmengeschichte* (1805; new ed. 1835); *Denkwürdigkeiten aus der christlichen Archäologie* (12 vols. 1817-31); *Handbuch der christlichen Archäologie* (1836-7); *Kritik der neuen Preussischen Kirchenagenda* (1823).

Augustine (AURELIUS AUGUSTINUS), the greatest of the Latin fathers of the Christian church, was born on Nov. 13, 354 A.D., at Tagaste, a small Numidian country town. Monica, Augustine's mother, was a woman of deep Christian piety. At the age of sixteen he was enabled to proceed to the University of Carthage. During his residence at Carthage Augustine lived a life of gaiety and dissipation; but not, apparently, to the neglect of his studies, for he gained the first place in the school of rhetoric—the most coveted distinction in those days. In Carthage, while a youth of eighteen, he contracted an alliance with a young woman, with whom he lived in a state of unmarried fidelity for fourteen years.

When in his twentieth year Augustine began, as he says, to desire 'with an incredible ardour the immortality of wisdom.' The

book that awakened him to this serious state of mind was Cicero's *Hortensius*. Turning to the Scriptures to satisfy his new hunger, he was disappointed, for they seemed to him 'unworthy of being brought into comparison with the majesty of Cicero.' In this condition of mental fermentation Augustine fell in with professors of Manichæism, and for more than nine years he remained a professed Manichæan.

With a 'mind darkened by error and a heart led astray by passion,' Augustine, at the age of twenty, opened a school for instruction in grammar and rhetoric in his native town. Though not unsuccessful, the young lecturer ere long resolved to seek fame in Carthage. There pupils gathered around him in large numbers, and Augustine further increased his fame by winning a high prize in a public rhetorical contest. But, owing to the lack of discipline among the students, he resolved to seek his fortune in Rome. His mother opposed the idea; but finally (383 A.D.) he eluded her vigilance and escaped. 'I lied to my mother, and to such a mother.' On his arrival at Rome the fugitive fell into a dangerous illness, but recovered. He set about opening a school, and numbers came to listen to his teaching. Unlike the students at Carthage, they behaved well; but they invariably failed to pay their fees. As a consequence Augustine applied for and obtained a post as teacher of rhetoric in Milan, where he drew a salary from the government.

Before leaving Carthage his enthusiasm for the teaching of the Manichæans had considerably abated. In Milan various influences operated on him which tended to lead him to accept Christianity. The study of Plato completely undermined his old faith, and the preaching of Ambrose, bishop of Milan, completed

the process. It was about this crisis in his history that his mother arrived from Africa. As a result of her influence and that of others, and of the study of the New Testament, Augustine was convinced of the truth of Christianity. The moment of awakening, so graphically described at the close of the eighth book of the *Confessions*, was the result of a conversation in which Pontitianus, a fellow-countryman of his own and a Christian, told him how the *Life of Anthony the Hermit* had so deeply impressed two members of the imperial service as to induce them to retire to a monastery.

This great change in Augustine's life took place in August 386. On Easter eve, April 387, he, along with his son Adeodatus and his friend Alypius, was baptized in Milan by Ambrose. Tradition associates with this memorable occasion the composition of the great Christian hymn the *Te Deum*. Shortly afterwards, at Ostia, when about to return to Africa, Augustine experienced a great sorrow through the death of his saintly mother; and he had not long settled in his native town, Tagaste, when his son also was taken away. In 391 the Christian community of Hippo Regius, a town close to the borders of Algeria and Tunis, compelled him to accept ordination. Within five years, Valerius, the bishop, secured him as his colleague; and after the death of the former, Augustine remained in possession of the see till the end of his life. The year 429 saw the Vandals in Africa, and in 430 they besieged Hippo. Three months later, on Aug. 28, 430, the famous divine breathed his last.

No theologian has produced a larger and deeper impress on the mind of Christendom than the bishop of Hippo. This he has achieved not only by his writings, but by the exhibition of Chris-

tian fervour and devotion which is given in the story of his inner life. As a philosopher and a moralist he anticipated many of the problems of modern times. As a stylist he is often prolix, but sooner or later he strikes off a sentence of immortal brilliance. Three great controversies called forth his immense mental resources. As against the Manichæans, he maintained the doctrine that evil was not a nature. Everything that God made was good. Evil was a defect or corruption of nature, brought about by the exercise of the human will. In opposition to the Donatists, who claimed that the Catholics had ceased to be a holy church by admitting those who had been unfaithful, Augustine denied that the church now existing was intended to be coextensive with the final and glorious church, and referred his opponents to the parables of the 'Tares' and the 'Drag-net.' But Augustinianism—the doctrines with which the name of Augustine is universally identified—was developed by its author in controversy with Pelagius, a British monk, and others who more or less entirely supported his views. The point of conflict was the relation between truth and individuals—the conditions and process of salvation. Augustine employed all his energies to establish the position that man is unable of himself to will anything good. There is no power either of choosing or of realizing the good in man; grace must do all. Starting from this, which he regarded as a fact of consciousness and as the teaching of Scripture, Augustine built up that elaborate system of theology which took shape in later days as Calvinism, whose main features are the absolute sovereignty of God, the absolute dependence of man, and the predestination of those that are saved.

Embracing expositions of Scripture, letters, philosophical and strictly theological works, Augustine's writings are voluminous. But the two best-known compositions are undoubtedly the *De Civitate Dei*, or 'City of God' (413-426) and the *Confessions* (397). The former appeared after the fall of Rome (410), and if much of it lacks weight because of Augustine's slight acquaintance with Greek and ignorance of Hebrew, it is a stupendous attempt to create a philosophy of history. In the midst of grave political disasters it brought before men's minds the conception of that spiritual city of God which had been slowly rising in the past, and which was destined to include all the kingdoms of the earth. The *Confessions* is the history of Augustine's thoughts and emotions, his sins and his struggles, his defeats and delays, and ultimate triumph. It was written, as he says, 'to praise the just and good God, and stimulate the heart and mind of man to approach unto Him.' And, with Bunyan's *Pilgrim's Progress*, Pascal's *Pensées*, and à Kempis's *De Imitatione*, it has fulfilled, and still fulfils, its author's design. Many English editions of these two works have appeared. In the original, the best editions of Augustine's writings are the Benedictine (8 vols. folio, published at Paris, 1679-1700, and republished in 22 vols., 1836-40) and Migne's (16 vols.). An English edition, including most of the important works, except the *Retractationes* (428), was published at Edinburgh (T. and T. Clark) in 1872-80, under the editorship of Professor Marcus Dods. See Milman's *Latin Christianity*; Mozley's *Augustinianism*; Cunningham's *St. Austin*, etc. (Hulsean Lecture, 1885); Harnack's *Hist. of Dogma* (1898) and *Monasticism and Confessions of Augustine* (1901); Hatzfeld's *St. Augustine* (1898); Rainy's *Catholic*

Church (1902); Schaff's *Life and Labours of St. Augustine* (1854); Baillie's *St. Augustine* (1859); Maccabe's *St. Augustine and his Age* (1902); also works in German by Cloth (1840), Reuter (1887), Binde-mann (1844-69), Dorner (1873), Ribbeck (1858), Böhringer (1877-8), and Von Hertling, and in French by Poujoulat (1886) and L'Abbé Flottes (1861).

Augustine, or AUSTIN, ST., first Archbishop of Canterbury, originally a monk of the Benedictine convent at Rome, was sent by Pope Gregory to convert Britain to Christianity. Accompanied by forty monks, Augustine landed on the Isle of Thanet (596). Through the intercession of Bertha, wife of Ethelbert, king of Kent, he was permitted to preach, and succeeded in making the king himself a convert to his cause. He was consecrated Archbishop of Canterbury, and, following Gregory's advice, conciliated native feeling, and made the change of religion as gradual as possible. Augustine ranks high for his monastic zeal, and as a capable bishop of the Roman Church. He died c. 607, and was buried at Canterbury. See A. J. Mason's *The Mission of St. Augustine to England* (1897), and books by E. W. Benson, G. F. Browne, and W. E. Collins (all in 1897). The chief source is Bede's *Eccles. Hist.* (ed. Gidley, 1870).

Augustinians, fraternities in the Roman Catholic Church who follow the rules referred to St. Augustine; but the origin of the order is in dispute. The principal congregations are the Canons Regular, the Hermits (of which Luther was a member), the Special Congregation, and the Bare-footed Augustinians. The Canons Regular, or Austin Canons, founded at Avignon about 1061, made their first appearance in Britain about 1100. At the reformation they owned two hun-

dred houses, the chief being at Pontefract, Scone, and Holyrood, and from their habit they were sometimes called the Black Friars. The Hermits, or Austin Friars, were under a rule much more severe, and were one of the four great mendicant orders of the church, whence the name 'Begging Friars.' The Special Congregation and Barefooted Augustinians were even more rigorous in their discipline. The Augustinian nuns are said to have founded their first convent at Hippo, under Perpetua, the sister of Augustine. See Speakman's *Rule of St. Augustine* (1902), and Dugdale's *Monasticon*, vi. 37.

Augustovo, or AUGUSTWO, tn., Poland, Russia, gov. Suwalki, 50 m. N.W. of Grodno, on river Netta, which is connected by canal with the Niemen. Noted for its cattle and horse fairs. Pop. 13,000.

Augustulus, ROMULUS, the last Roman emperor of the West, was the son of Orestes, a Pannonian, who, with the assistance of the barbarian troops, dethroned Julius Nepos, and placed Augustulus (the diminutive was added in derision of his youth and his weak intellect) as a puppet upon the throne (476). Dissatisfied with their reward, the barbarians, under Odoacer, overcame and slew Orestes. Augustulus, deprived of his sovereignty, retired to Naples.

Augustus (63 B.C.—14 A.D.), the first and greatest—unless Julius Cæsar is reckoned—of the emperors of Rome, was the son of C. Octavius, by Atia, daughter of Julia, the sister of Julius Cæsar, who adopted him. His name before adoption was C. Octavius; afterwards it was Gaius Julius Cæsar Octavianus, the title Augustus ('the revered') being added by the senate and people in 27 B.C. Octavian was studying at Apollonia, in 44 B.C., when the news of the murder of Cæsar reached him. Proceeding to

Rome, at first he professed adherence to the republican party, and fought against Antony at Mutina, along with the consuls Hirtius and Pansa. Antony fled across the Alps, and both the consuls fell in the battle. Octavian, on his return to Rome, compelled the senate to support his election to the consulship. He then proceeded against Antony, but was reconciled to him by Lepidus; and the three formed the second triumvirate, which was to last for five years. They proscribed all their enemies, massacring them and confiscating their property, to the number of over 2,000 knights and 300 senators, including Cicero. In 42 B.C. Octavian and Antony defeated Brutus and Cassius at Philippi, thus destroying the hopes of the republican party. Returning to Italy (B.C. 41), Augustus had to wage war with L. Antonius, brother, and Fulvia, wife, of the triumvir. The capture of Perugia decided the contest favourably for him. Antony now threatened him, but, thanks to Fulvia's death, a reconciliation was effected between them at Brundisium. Antony then took the east, Octavian the west of the empire, and Lepidus Africa. In 36 B.C. Octavian put down the power of Sextus Pompeius, son of Pompey the Great, who had for years held Sicily with a powerful fleet, and deposed Lepidus, whom he allowed to live at Rome as *pontifex maximus* ('chief priest'). Meanwhile Antony's repudiation of Octavia his wife, Octavian's sister, and his intrigues with Cleopatra of Egypt, led to the decisive struggle for supreme power, which was ended by Octavian's victory at Actium (31 B.C.). Next year he went to Egypt, and the death of Antony and Cleopatra left him undisputed master of the Roman world. In 29 B.C. he returned to Rome, and

held a triple triumph. He proposed, in 27, to lay down his extraordinary powers; but the senate prevailed on him to accept them for ten years longer, and this plan was repeated more than once. His last years were clouded by the defeat of Varus in Germany in 9 A.D.

Though Augustus was really an absolute monarch, he appeared to preserve the republican constitution. In the *Monumentum Ancyranum*—his own record of his achievements—he claims to have held extraordinary power only by will of the people until the empire was reduced to order, and then (in 27) to have restored the old constitution. And this claim was justified; for though he held the consulship eleven times, his authority really depended on wider powers conferred on him without a definite office—the *imperium proconsulare* ('command of a proconsul'), unlimited in time or place, which made him supreme over all other provincial governors; and the *tribunicia potestas* ('power of a tribune'), which, given for life, enabled him to call the senate, initiate legislation, and control politics in Rome. His reform of provincial government was his best title to fame: he regulated taxation, restored justice, and gave peace and order to the Roman world. Augustus did not aim to extend the empire, but to secure it within its natural boundaries—the Atlantic on the west, the Sahara on the south, the Euphrates on the east, the Danube and Rhine on the north. Rome was greatly embellished under his rule (see AGRIPPA): he boasted that he found Rome made of brick, and left it built of marble. Literature was much encouraged by his patronage: Horace, Virgil, Livy, and other writers of the 'Augustan age,' were assisted by the emperor's advice and reward. He owed much to his assistants,

Agrippa in action, Mæcenas in counsel. The dominant note of his character was a studied moderation.

Ancient authorities: Cicero's *Letters and Philippics*; Tacitus's *Annals*, bk. i.; Suetonius's *Augustus*; Plutarch's *Antonius*; Dion Cassius, bks. xlv.–lvi.; Velleius Paterculus, bk. ii. See Beulé's and Gardthausen's *Augustus* (in German, 1904); Baring-Gould's *Tragedy of the Cæsars*, and Shuckburgh's *Life of Augustus* (1903).

Augustus, elector of Saxony (1526–86), born at Freiburg, was brought up at Prague a Calvinist, in intimate friendship with Maximilian, afterwards emperor of Germany. Having married the Lutheran Anna of Denmark (1548), he became a staunch Lutheran, and on succeeding his brother Maurice (1553) he persecuted the Calvinists. He was mainly instrumental in negotiating the peace of Augsburg (1555), and showed great and enduring activity as an organizer of the legal institutions of his country.

Augustus II., FREDERICK, THE STRONG, elector of Saxony and king of Poland (1670–1733), second son of John George III. of Saxony, was born at Dresden, and succeeded his brother, John George IV., as elector in 1694. He was elected king of Poland in 1697, becoming a convert to Roman Catholicism in order to obtain election. Joining Peter the Great and Denmark against Charles XII. of Sweden, he invaded Livonia (1699), but suffered defeat at Riga (1701) and Klissow (1702). He was deposed by Charles XII. from the Polish throne in favour of Stanislaus Leszcynski, but after the defeat of Charles at Pultowa (1709) was reinstated, and renewed the war (1710–19) with Sweden. He had various mistresses, among them Aurora von Königsmarck; and among his many illegitimate children was Marshal Saxe.

Augustus III., FREDERICK, elector of Saxony (1696–1763), son of the preceding, was born at Dresden. Succeeding his father (1733), he was chosen king of Poland (1734) by a party of the Diet, prevailing over Stanislaus. He was embroiled in the three Silesian wars—siding in the first with Prussia; in the second and third, through jealousy of the power of Prussia, with Austria. In the second (1745) Dresden was occupied by Frederick the Great, through the defeat of Augustus and his ally Maria Theresa; in the third (the Seven Years' war, 1756–63) he escaped to Poland, returning after the peace of Hubertsburg in 1763. He was a patron of music and painting.

Auks, or *ALCIDÆ*, a family of marine birds with heavy bodies, large heads, and compact plumage. The wings are always short, and the great auk, or garefowl, now extinct, was flightless. From the position of the feet, the gait on land is clumsy; but the auks are expert at swimming and diving, rarely leaving the sea except for breeding purposes. See GAREFOWL.

Aulapolai. See ALLEPPI.

Aula Regia, or REGIS, a court instituted by William the Conqueror, formed of the great officers of state, and afterwards regulated by Magna Charta.

'**Auld Lights.**' See PRESBYTERIAN CHURCH.

Aulic Council. The Emperor Maximilian, in 1501, set up in Vienna the Aulic Council. It soon ceased to exist, but Maximilian was forced to reinstate it, though on a rather different footing. Though at first it dealt only with Austrian business, the Aulic Council gradually encroached upon the Imperial Chamber and usurped many of its functions. With the dissolution of the empire in 1806, the term Aulic Council was applied to the emperor of Austria's coun-

cil of state. See *Cambridge Modern History*, i. ch. ix. (1904).

Aulie - Ata ('Holy Father'), tn. on r. bk. of the Syr Daria, Russian Turkestan; pop. 12,000, mostly Kirghiz. It was taken by the Russians, July 3, 1864.

Aulis, in anc. geog. a seapt. in Bœotia, Greece, on the Euripus, from whence the Greek fleet sailed against Troy.

Aullagas, LAKE. See TITICACA.

Aulnoy, or D'AUNOY, MARIE CATHERINE JUMELLE DE BERNEVILLE, COMTESSE D' (1650–1705), wrote forgotten French romances (*Hippolyte, Le Comte de Douglas*, etc.) and unreliable historical memoirs, but is remembered for her successful fairy stories (*Contes des Fées*, 1698) in the manner of Perrault, which have been translated and adapted for pantomimes (*White Cat, Yellow Dwarf, Cinderella*, etc.).

Aumale. (1.) The anc. *Albemarle*, dist. tn. of France, dep. of Seine-Inférieure, on the Bresle, 37 m. N.E. of Rouen. Cloth, leather, and steel; mineral spring. Pop. 2,500. See Semichon's *Histoire de la ville d'Aumale* (1862). (2.) The anc. *Auzia*, military post, Algeria, 80 m. S.E. of Algiers; has many Roman remains. Pop. 6,000 (1,600 Europeans).

Aumale, COUNT AND DUKE OF. The former title was granted by William the Conqueror to Eudes, son of Henri Etienne, count of Troyes and Meaux, in the 11th century. The male line of this family terminated with the third generation, when the title passed by marriage to the family of Castille. Confiscated by Philippe Auguste (1194), it was granted in the 13th century to Simon de Dammarin, count of Ponthieu, and passed by marriage to the house of Lorraine (1417). The countship was made into a duchy (1547) by Henry II. in favour of François de Lorraine, who ceded it to his brother,

Claude de Lorraine. In 1618 it passed to the house of Savoy by the marriage of Anne de Lorraine with Henry of Savoy, and in 1675 was bought by Louis XIV. and given to Louis Auguste de Bourbon. In 1679 it passed by marriage to the house of Orleans, the fourth son of Louis Philippe bearing the title.

Aumale. (1.) CHARLES DE LORRAINE, DUC D'AUMALE (1554-1631), the last of the old dukes, was a prominent member of the Holy League, instituted by the Duke of Guise (1576). Defeated at Senlis by the Duc de Longueville, and at Arques (1589) and Ivry (1590) by Henry IV., he fled to Spain, was condemned to death in absence, and lived abroad till his death at Brussels. (2.) HENRI EUGÈNE PHILIPPE LOUIS D'ORLEANS, DUC D' (1822-97), fourth son of Louis Philippe, was born in Paris. He served in the army of Algeria (1840-7), of which province he became governor-general in 1847. After a year in office he retired, as the result of the revolution of 1848, and lived in England. He devoted himself to literature, mainly military and historical, his chief works being *Les Institutions militaires de la France* (1867) and the *Histoire des Princes de Condé* (1869). In 1871 he returned to France, and became a member of the Assembly and of the Academy (1871). Expelled in 1886, he was permitted to return in 1889, having in 1886 handed over his château at Chantilly to the Institut de France. See E. Daudet's *Le Duc d'Aumale* (1898).

Aune, AULNE, an old European cloth measure corresponding to the English ell, varying between 27 and 54 in. It survives in Switzerland, where the aune is 47½ in. The Fr. aune, now replaced by the metre, was the Lat. *ulna*=elbow.

Aungerville, RICHARD (1281-1345), called also RICHARD DE BURY, from his birthplace, Bury

St. Edmunds; tutor to the Prince of Wales, afterwards Edward III.; became bishop of Durham (1333), lord high chancellor (1334), and treasurer (1337). Having acted as ambassador to France, Germany, Hainault, and to the Pope, he gained a wide knowledge of European literature, and corresponded with Petrarch. He was an ardent book collector, and founded a library in connection with the Durham Benedictines at Oxford. *Philobiblon* is his chief work (1473); ed. by E. C. Thomas, 1902.

Aura, any strange sensation which gives warning of the approach of an epileptic or a hysterical fit. It often resembles a breath of cold air moving up the body to the head; whence the name.

Aural Diseases. See EAR.

Aurangabad. See AURUNGABAD.

Aurantiaceæ, a family of plants classed by Lindley in his Rutales, or Rutal Alliance; mostly semi-tropical trees and shrubs, in number ninety-five, nearly all from India. The typical genus is *Citrus*, the species including orange, lemon, lime, citron, bael-fruit, wampee, and shaddock.

Auray, tn., dep. Morbihan, France, 3 m. from the sea (Bay of Morbihan), 11 m. w. of Vannes; corn, butter, honey, cloth, cattle. '*Le Pardon d'Auray*' gathers yearly thousands of Bretons round the Chapel of St. Anne. In 1364 the Anglo-Breton army defeated the French under Duguesclin, who was taken prisoner. Pop. 6,700.

Aurdal, tn., Hamar prov., Norway, 120 m. N.E. of Bergen. Pop. 8,500.

Aurelianu, PETRU, Roumanian statesman, born in 1833; entered public life (1876), in which he took a leading part; prime minister (1896-7). He showed himself also a notable economist. Chief work,

Tara Noastra (1876; new ed. 1888). In 1868 he founded the journal *Economia rurala la Romanii*.

Aurelianus, emperor of Rome from 270 to 275 A.D., was born of humble parents, probably at Sirmium, in Pannonia, c. 212. Elected by the army to succeed Claudius II., he defeated the Goths and Vandals, who had crossed the Danube, and repelled a German invasion of Italy. In the east he overcame (271) Zenobia, queen of Palmyra, and brought her captive to Rome. Next he recovered Gaul, Spain, and Britain from the usurper Tetricus. He fortified Rome with a new line of walls, and, abandoning Dacia, made the Danube the frontier of the empire. He was murdered by his officers while preparing an expedition against Persia.

Aurelian Wall, the wall which the Emperor Aurelian built round Rome in 271 A.D., though it was completed by Probus in 280. It had a circuit of over 12 m., and was pierced by fourteen gates. It was built of concrete, with brick facing, and was 12 ft. thick. Its height varied according to the contour of the ground, but in some places it was as much as 60 ft. high, and was provided at regular intervals of 45 ft. with massive square towers. A great part of it still exists in a more or less perfect state—*e.g.* near the Porta Appia. See J. H. Middleton's *Remains of Ancient Rome* (1892); Burn's *Rome and the Campagna* (1870); Quarenghi's *Le Mura di Roma* (1880).

Aurelian Way (*Aurelia Via*), one of the principal ancient roads of Italy, which, starting from Rome near the Janiculum gate, ran northwards along the west coast, passing through Centumcellæ (Civita Vecchia), Pisa, Genoa, to Antipolis (Antibes) in Gallia. The part north of Pisa was constructed by Augustus.

Aurelius, MARCUS (121–180 A.D.), Stoic and Roman emperor, whose birth-name was M. Annius Verus, was born at Rome. His father's sister, Faustina, married T. Antoninus Pius, the successor of Hadrian in the empire; and it was to Antoninus, 'that true unconscious humanist,' that he owed his highest example in rectitude and the duties of sovereignty. But the bent of his mind towards Stoic principles seems to have been fostered most by Junius Rusticus, to whom he owed his reading of Epictetus. In 138 he was adopted by his uncle, the Emperor Antoninus, taking on himself the new name of Marcus Aurelius Antoninus. With his deepening conversion to philosophy came also a growing Stoic abnegation of the pleasures of literature, although his connection with men of letters never entirely ceased. He succeeded to the throne in the year 161. The influence of the emperor's philosophy became apparent in the broader and more beneficent interpretation of Roman law: the rights of slaves were extended even to a share in an intestate master's property; the 'tutelary prætor' was created to safeguard orphans; and humanitarian foresight touched even the circus and the gladiatorial shows. In 166 the frontiers of Italy were menaced by northern barbarians. Aurelius first took the field in person in 167, and the uncongenial business of war occupied him almost continuously until the year 175. In 173 the Marcomanni were overwhelmed in their passage of the Danube. In the previous year Aurelius had won the title of 'Germanicus'; in the succeeding one he added to it that of 'Sarmaticus.' Avidius Cassius, an able commander in the East, declared himself *imperator* in 175, but was murdered before the ar-

rival of Aurelius. In Dec. 176 the emperor returned to Rome, where he was accorded a triumph. But the Marcomannic troubles breaking out afresh, he left again for the field in Aug. 178. The campaign was successful; but Aurelius died, either at Vienna or Sirmium, Mar. 17, 180. In the Piazza Colonna, on the Corso at Rome, stands a fine ancient monument (95 ft. high) to his memory. The emperor's twelve books, or rather short chapters, τῶν εἰς ἑαυτὸν, form one of the famous books of the world. They are the jottings of his lonely reflections in the moments snatched from rest or action during his campaigns—*Among the Quadi, At Carnutum*, etc. The *Thoughts* unite high nobility with complete sincerity and tenderness. The premises of stoicism M. Aurelius accepts more faithfully than was general among his contemporaries, and it is possible to trace in his *Thoughts* all its main doctrines—life according to nature, mastery of the inner self, God immanent in the cosmos, and the insignificance of the individual. But the enduring qualities of the book are owing rather to its human feeling—its wistfulness, its courage, and its call to duty.

M. Aurelius wrote in Greek—the accepted philosophical speech of his age—but hardly with perfect ease. The *Thoughts* were not published till 1558, when Xylander issued at Zürich the first edition, from a MS. since lost. Some time previously (in 1529) the Spanish euphuist, Antonio de Guevara, had written his *Libro de Marco Aurelio*, a work based on the emperor's teaching; and Sir Thomas North's version of this, entitled *The Dial of Princes*, had a considerable vogue in England. But the first translation of Aurelius's own book into English was that of Meric Casaubon (1634); recent edition (1900) by W. H. D. Rouse.

Jeremy Collier (1702) published a version, not without some merits; but the two standard modern translations are Long's (2nd ed. 1880) and G. H. Rendall's (1898), both with introductions, and the latter with a very careful study of Stoicism. G. W. Chrystal published a fresh translation in 1902. Walter Pater has introduced M. Aurelius into his romance of *Marius the Epicurean*, a book which is valuable as an attempt to give the atmosphere of the time. See also Renan's *Marcus Aurelius* (*Origins of Christianity*, bk. vii.), Eng. trans. (1888), and M. Arnold's *Essays in Criticism*.

Aureole, a radiance or luminous cloud surrounding the body of Christ, the Virgin Mary, or the saints, in sacred art, emblematic of the influence of the Holy Spirit. When merely a luminous circle surrounds the head, it is termed a *nimbus*; the combination of both is termed a *glory*. A symbol of Egyptian origin adopted by the Christians of the 5th century.

Aures Mountains (the *Mons Aurasius* of Procope), a range in S. Algeria, about 75 m. in length, overhanging the Sahara, and enclosing fertile valleys and plains. Its inhabitants, the Shawia, are Berbers; their customs betray a Christian ancestry. The highest peaks in the range are Shelia (7,600 ft.) and Mahmel, which is nearly as high. The moufflon is still hunted. See Masquéray's *De Aurasio Monte* (1886); Fallot's '*Etude sur les Monts Aurès*' (in *Bull. Soc. Geogr. Marseilles*, 1886).

Aureus (Lat. *aurum*, 'gold'), the first and standard Roman gold coin, issued tentatively about B.C. 217, and afterwards permanently by Julius Cæsar and the Roman emperors, until Severus substituted for it the *solidus* = 100 sesterces or 25 denarii.

Aurich, tn., dist. Aurich, prov. Hanover, Prussia, 18 m. by rail N.E. of Emden, the capital of E.

Friesland, having in the vicinity the Upstallsbom, or 'judgment tree' and 'tree of assembly' of the ancient Frisians. Pop. 6,000.

Auricle. See HEART and EAR.

Auricula. See PRIMULACEÆ.

Auriga (Lat. 'the Charioteer'), an ancient constellation, situated between Perseus and Taurus, the principal stars of which never set to the British Isles. (See CAPPELLA.) There is little doubt of its Euphratean origin. About five degrees south-west of Capella are ζ and η Aurigæ, known to Hipparchus and Ptolemy as the 'Kids.' Their heliacal rising in October was supposed by the Romans to portend stormy weather. Virgil mentions them (*Æneid*, ix. 668) as *pluviales Hædi*, and Horace (*Od.*, VII. v. 6) as *insana sidera*. A white star of the second magnitude, β Aurigæ, marking the right shoulder of the Charioteer, was discovered by Miss Maury, in 1889, to be a spectroscopic binary revolving in four days. Similar evidence of circulatory motion was derived by Professor Vogel, in 1902, from spectrographs of ϵ Aurigæ, a star varying from 3.0 to 4.5 magnitude in a period of 27.1 years, the light changes occupying 2 years. A temporary star near χ Aurigæ, which rose to 4.4 magnitude in December 1891, gave a remarkable spectrum of bright and dark lines, indicative of violent disturbance. Nova Aurigæ is still discernible with powerful telescopes. It is situated in the Milky Way. Three clusters, Messier 36, 37, and 38, are collected in the same neighbourhood, the last resembling in shape an oblique cross, while Messier 37 is Admiral Smyth's 'gold-dust' cluster.

Aurigny, the French name of Alderney, used by Macaulay in his *Armada*.

Aurillac, tn., cap. of dep. Cantal, France, on the s.w. slopes of Mt. Cantal, at alt. of 2,040 ft., 67 m. s.s.w. of Clermont-Ferrand.

The church of St. Géraud, partly 15th century, and an old castle, now normal school, are the chief buildings. There are some printing, silversmith, and coppersmith industries. An abbey was founded here in 900. Birthplace of Pope Sylvester II. Pop. 18,000.

Aurispa, GIOVANNI (c. 1369-1459), Italian scholar who visited Constantinople to study Greek; returned with a large collection of manuscripts of ancient Greek writers, most of which he translated.

Aurlandsfjord. See SOGNEFJORD.

Aurochs (Lat. *urus*, 'wild ox'), the German name for a common species of European wild ox still existing in Lithuania, where it is strictly protected by law. See BISON.

Aurora (Gr. *Eos*), goddess of the dawn, daughter of Hyperion and Thia. Every morning she rose from her couch to announce the coming of the sun, in a chariot drawn by swift horses. She loved several mortals, among others Cephalus, Orion, and Tithonus. Memnon was her son by Tithonus.

Aurora, city, Kane co., Illinois, U.S.A., on the Fox R., 40 m. w. of Chicago. Has iron foundries, cotton and flour mills, and extensive railway carshops. Pop. 30,000.

Aurora Borealis, or NORTHERN LIGHTS, is a luminous meteor of great beauty which is seen in the northern sky, taking the form of streamers, arches, or patches, which vary in shade considerably, being sometimes smoky black or steel gray, and at others brilliant yellow, green, violet, or fiery red. As usually seen, the aurora commences with the formation of an arch with its apex to the magnetic meridian, the arch being usually better defined on the lower than on the upper side. Underneath the arch the sky is apparently darker than the rest of the heavens, this gloomy portion being known as 'the dark segment;' stars are vis-

ible through this part of the sky as well as through the aurora itself. Slender streamers of well-defined bright light extend up from the arch usually to a distance of from 20 to 30 degrees, towards the magnetic zenith. In width they vary from half a degree to three degrees, and move a degree from one side to another. To the Shetlanders they are known as the merry-dancers. The arch is sometimes evenly illuminated, but is at times convoluted like a folded curtain. Sometimes the sky is entirely covered with brilliant coruscations shooting up from the horizon, converging in a quivering blaze of feathery flame high in the sky, nearly in the direction shown by the south end of a magnetic dipping-needle. This is known as the corona. The arch has been observed after formation to move slowly away from the direction of the belt of greatest frequency. Its apparent breadth diminishes on approaching the coronal point, the streamers making a more and more acute angle with the arch until they unite with it where it meets the coronal point. The arch is supposed to be like a sheet suspended nearly vertically, the rays and streamers being parallel, their apparent divergence being due to perspective.

Auroral displays are most frequent and brilliant in relatively high latitudes. In America, according to Professor Loomis, the zone of maximum frequency is between lat. 50° and 60° N.; but in Europe and Asia the region of greatest frequency lies between the parallels of 66° and 75° . The aurora is most common in an oval belt which surrounds the pole, closely coinciding with the line of equal dip. The belt of greatest frequency begins close to the shores of the Arctic Ocean, from the North Cape east to Point Barrow, thence south, passing through Hudson Bay in lat. 60° , then south

of Greenland, and obliquely north again between the Faroe Is. and Iceland. In the zone of maximum frequency over eighty auroras are seen annually. In America there are visible in a year, at lat. 40° , ten auroras; at lat. 42° , twenty; at lat. 45° , forty; and at lat. 50° , eighty. Betwixt lat. 50° and 60° they are visible almost every clear night. North and south of these latitudes the aurora is less common. In the torrid zone it is rarely observed, not more than six auroras in a century being seen as far south as lat. 20° . In London two auroras are seen annually; in Edinburgh, four—displays being much more frequent, latitude for latitude, in America than in Europe. Auroras are at times seen simultaneously over large tracts of the world, from Russia to California, and from Jamaica to Labrador, such a display being that of October 1870. Professor Loomis is of opinion that a display of aurora in the vicinity of the north magnetic pole is regularly attended by a simultaneous display round the south magnetic pole. Messrs. De la Rue and Müller have established the connection between the colour of electrical discharges and the potential, from which the height of the aurora may be approximately determined. Using a battery of 11,000 cells, they find that the colour of the discharge with the same potential varies greatly with the tenuity of the gas or air. At a pressure corresponding to 11.6 m. the discharge is of a full red colour; at a pressure corresponding to a height of 12.4 m. the discharge assumes the carmine tint so frequently observed; at a pressure corresponding to 30.9 m. the discharge becomes salmon-coloured, which at a height of 34 m. becomes of a paler hue, changing as pressure is lowered to a pale milky white. The roseate and the salmon-coloured tints are always close to

the positive source of the electric current. At the magnetic terminal in air the discharge is always of a violet hue, and this colour in the aurora is due to the proximity of the negative source. From those researches the authors concluded that the aurora may appear at altitudes as low as a few thousand feet, or as high as 80 or 100 m. (See *Proc. Roy. Soc.*, vol. xxx. p. 382.) From observations taken in the Arctic regions during the long polar nights, it has been found that the aurora is more frequent in the nocturnal than in the diurnal hours, but in middle latitudes the maximum is reached earlier in the evening. The annual period is well marked, there being two maxima and two minima, which vary slightly in different localities. Auroras are of frequent occurrence in October and April, and rare in December and June. From observations made in London for 189 years, in Edinburgh for 81 years, and in the north-east of Scotland for 122 years, it is found that the primary maximum occurs in October at all three places. The time of the secondary maximum, on the other hand, does not coincide in the three localities, but occurs in the north-east of Scotland in February, in Edinburgh in March, while in London and Paris the spring maximum is retarded until April. In Sweden the maximum occurs in March, while in the Polar regions January is the time of greatest auroral activity. The following table shows the monthly percentage frequency of auroras for three places in the British Isles where observations have been taken for a long period. The returns from the north-east of Scotland are from Culloden, Aberdeen, and Gordon Castle.

The diminished frequency of auroral displays from October to December is well marked at all the stations, as is the effect of the

longer night in the south at the time of the summer solstice—the percentage frequency for May, June, and July rising from 2·6 in the north-east of Scotland to 5·7 in Edinburgh, 7·0 in London, and to 15 per cent. in Paris. (See Mossman on the 'Aurora Borealis in London from 1707 to 1895,' in *Jour. Scot. Met. Soc.*, vol. xi. p. 59.)

	N.E. of Scotland. 122 Years.	Edinburgh. 81 Years.	London. 189 Years.	Mean. 131 Years.
Jan.....	10·9	10·0	8·6	9·8
Feb.....	12·7	12·3	10·5	11·8
Mar.....	12·0	13·9	10·2	12·0
Apr.....	7·1	9·0	10·7	8·9
May.....	2·2	3·6	4·0	3·3
June.....	0·0	0·3	1·1	0·5
July.....	0·4	1·8	1·9	1·4
Aug.....	4·4	6·4	5·6	5·5
Sept.....	12·9	12·3	14·5	13·2
Oct.....	15·8	13·9	16·9	15·5
Nov.....	12·0	11·7	9·6	11·1
Dec.....	9·6	4·8	6·4	6·9

The generally received theory is that the aurora is due to the ascent of positive electricity from the intertropical water surfaces, which flows towards the poles, wafted by the higher aerial currents. In the region of the poles it descends towards the earth, and comes in contact, in a highly-rarefied atmosphere, with the terrestrial negative electricity, which results in luminous discharges of great brilliancy. Intimate relations exist between sun spots, magnetic storms, and auroras, the appearance of a large spot on the solar disc being almost invariably accompanied by a magnetic storm in all parts of the globe. During magnetic storms auroral displays usually take place, but not all auroras are coincident with magnetic disturbances. The principal feature of the spectrum of the aurora is a yellow line close to the sodium line, similar to the air line seen in

the spectrum of sunlight when the sun is close to the horizon.

The AURORA AUSTRALIS, which is the name applied to auroral displays seen in the southern hemisphere, differs in no striking feature from the Northern Lights. See text-books of meteorology, and *The Polar Aurora*, by M. Angot (Inter. Scientific Series, 1896).

Aurangabad, tn. in the state of Haidarabad (Deccan), India, 67 m. N.N.E. of Ahmednagar. Contains the ruins of a palace built by Aurungzebe, and the mausoleum of a favourite daughter. There are caves, partly Buddhist, 1 m. W. of the town. Pop. 26,000.

Aurungzebe, MOHAMMED MUHI ED-DIN AURUNGZEB ALAMGIR (1618-1707), ascended the throne of Delhi in 1658, when he put to death his two brothers, Dara and Murad Baksh, drove his third brother, Shuja, into exile, and imprisoned his father, the Emperor Shah Jehan, for the rest of his life. Once firmly seated on the throne, Aurungzebe, under the cloak of piety, as a strict Mohammedan, persecuted the Hindus, and alienated his non-Moslem subjects. His reign has been regarded as the most brilliant period of the Mogul domination; but the animosity aroused by his persecutions, and the successful raids of Sevaji, the Mahratta chief, sapped the foundations of the empire. Nevertheless he subdued Bijapur and Golconda. See Dryden's *Aurungzebe* (1876); S. L. Poole's *Aurangzib* (1893).

Auschwitz, tn. Galicia, Austria, 30 m. W. of Cracow. Pop. 7,000.

Auscultation, in medical practice listening to the sounds (especially respiratory and cardiac) of the body, with a view to diagnosis. It was introduced regularly into practice by Laënnec in 1816.

Ausgleich, or compromise between Austria and Hungary, is the name of the agreement which

regulates and governs the financial relations between the two. It determines the contribution of each to the common expenditure of the empire, the quota of the national debt which falls to each, and the fiscal and commercial relations between them. It was first concluded in 1867 for a period of ten years, and was afterwards renewed in 1878, 1887, 1902, and 1907. See *Cambridge Modern History*, vol. xi. ch. 16 (1909).

Ausonius, called DECIMUS MAGNUS, one of the latest Latin poets; born after 300 A.D., and died after 388 A.D. He was born at Bordeaux, where he practised at the bar until he reached the age of thirty, when he became a teacher of rhetoric, and was tutor to Gratian, son of Valentinian. He received the title of count and the quæstorship from the latter, after whose death Gratian made him prefect of Latium, Libya, and Gaul, and finally consul in 379 A.D. A number of his works survive, of which the *Mosella*, on the river of that name, is the most interesting. Eds.: Text—Peiper (1886), Scheubl (1883); the *Mosella* only, with notes and Fr. trans., De la Ville de Mirmont (1889).

Auspex. See AUGUR.

Aussee, tn. and summer resort in N.W. of Styria, Austria, beautifully situated on the Traun; has saline waters, a hydropathic, and salt works. Pop. 1,600.

Aussig, tn., Bohemia, Austria, on the Elbe, 66 m. by rail N. by W. of Prague; dress stuffs, chemicals, glass, machinery, oils. There are large lignite mines in the vicinity. Aussig is the birthplace of the painter Raphael Mengs. Pop. 38,000.

Austen, CHARLES JOHN, British rear-admiral (1779-1852), brother of the two following, was present at the capture of the *Komeet*, *Tribune*, and *Ville de Lorient*. In the *Endymion* he assisted in the capture of the *Scipio*. In 1816

he was wrecked in the *Phœnix*. Between 1826 and 1828 he commanded the *Aurora* in the W. Indies, suppressing the slave trade. In the *Bellerophon* he took part in the bombardment of St. Jean d'Acrc (1840). Promoted rear-admiral in 1844.

Austen, SIR FRANCIS WILLIAM (1774-1865), British admiral of the fleet, in the *Petrel* captured the *Ligurienne* and drove ashore two other vessels in 1800, and afterwards served in the Egyptian operations of 1801. He commanded the *Canopus* at the battle of San Domingo in 1806. In the American war, while commanding the *Elephant* in the Baltic, he captured the privateer *Swordfish*. He was made admiral (1848), and admiral of the fleet (1863). He was brother of Jane Austen, the novelist.

Austen, JANE (1775-1817), English novelist, was born at Steventon in Hampshire. The Austens remained at Steventon until 1801, when Jane was twenty-five. Jane acted as housekeeper for the family. Her favourite reading was in Richardson, Cowper, *The Spectator*, and Crabbe. Her first serious literary exercise began when she was about seventeen. It took the form of a story in letters, called *Elinor and Marianne*. This, when finished, she put away for a while. Her next effort was a story, to which she gave the title *First Impressions*; but meeting, it is conjectured, the phrase 'pride and prejudice' in Fanny Burney's *Cecilia*, she altered it to that. The novel was finished in 1797, having taken ten months; was offered to Cadell, and rejected. *Elinor and Marianne* was then taken in hand again, rewritten, and renamed *Sense and Sensibility*. This was again put away, and *Northanger Abbey* (usually pronounced Northhanger) was begun, in 1798. The new work was a departure, being at first

frankly a travesty of the school of Mrs. Radcliffe, whose *Mysteries of Udolpho* was in every one's hands, and also of a certain type of sentimental love story then prevalent; but as the story proceeded the human interest deepened, and fortunately elbowed out the original ironical purpose. *Northanger Abbey* was sold to a Bath bookseller for £10 in 1803, but was not published. Thus ended the first period of Miss Austen's literary career. The family lived at Bath from 1801 till 1805, when Mr. Austen died; they then moved to Southampton until 1809, and then to Chawton, near Alton. During this period Miss Austen seems to have written only the fragment known as *The Watsons*; but at Chawton the second writing period of her life began. Her first care was to revise *Sense and Sensibility* and *Pride and Prejudice* (which were published, anonymously, in 1811 and 1813 respectively), and to get back *Northanger Abbey* from its purchaser, and to revise that. She also wrote three new novels—*Mansfield Park*, published in 1814; *Emma*, 1816; and *Persuasion*, published posthumously, with *Northanger Abbey*, in 1818, with a memoir prefixed, and the author's name for the first time on a title-page. These six stories, with a shorter tale in letters, called *Lady Susan*, and the fragment already referred to, constitute Jane Austen's entire contribution to English literature. Macaulay said that in the minute delineation of shades of character she came nigh Shakespeare; and Tennyson made a similar criticism. Scott said, 'That young lady had a talent for describing the involvements, and feelings, and characters of ordinary life which is to me the most wonderful I ever met with;' and he referred to her possession of 'the exquisite touch which renders ordinary

commonplace things and characters interesting.' These encomiums omit reference to Miss Austen's humour, which lends to her stories a subacid flavour for which, by many readers, they are as much valued as for their analysis of the tender passions and emotions. Of all Jane Austen's novels, the earliest, *Pride and Prejudice*, is at once the most popular and the best. It has not the maturity of *Emma*, which vies with it for first place; but in steadiness of progress, in directness of purpose, in intensity of interest and quiet mischief, it excels. Jane Austen was buried in Winchester Cathedral. Good editions of her works were published in 1896 (ed. by Austin Dobson), 1898, 1899, and 1902. In addition to the memoir by Austen Leigh (2nd ed. 1871), and the *Letters*, ed. by Lord Brabourne (1884), there are monographs by Goldwin Smith (1890), Mrs. Ch. Malden (1889), Sarah Tytler (1880), Walter Herries Pollock (1900), Constance Hill (1900), H. C. Beeching (1903). See Howell's *Heroines of Fiction* (1902).

Auster, called *Notus* by the Greeks, the south or rather south-west wind, which was usually wet, but at certain seasons dry and unhealthy; the modern Italian sirocco.

Austerlitz, tn., Moravia, Austria, 13 m. by rail s.e. of Brünn; the scene of the great battle in which Napoleon defeated the Austrians and Russians on Dec. 2, 1805, and concluded the armistice of Austerlitz on Dec. 6. Pop. 3,000.

Austin, city, cap. of Texas, U.S.A., and co. seat of Travis co. and cap. of the state, on the l. bk. of the Colorado R. The capitol is one of the finest state buildings in the country. It is an immense granite structure, erected at a cost of over £700,000. Austin is the seat of the state university. Has extensive lum-

ber and leather industries. Pop. 30,000.

Austin, ALFRED (1835), poet laureate of England, was born at Headingley, near Leeds. On the death of his father (1861) he abandoned law for journalism and literature. His first publication was *Randolph: a Tale of Polish Grief* (1854), followed by the much-criticised volume, *The Season: a Satire* (1861), and its sequel, entitled *My Satire and its Censors*, in the same year. Since that date he has written—in addition to several novels—numerous volumes of verse, including *The Human Tragedy* (1862; new ed. 1889), *Savonarola* (1881), *Soliloquies* (1882), *English Lyrics* (1890), *Prince Lucifer* (1887), *England's Darling* (1896), *The Conversion of Winckelmann, and other Poems* (1897), *Songs of England* (new ed. 1900), *Haunts of Ancient Peace* (1902), *Flodden Field* (a tragedy, 1903), *The Door of Humility* (1906), *Sacred and Profane Love* (1908). Among his prose works are *The Garden that I Love* (1894), *In Veronica's Garden* (1895), and *Lamia's Winter Quarters* (1895), *Spring and Autumn in Ireland* (1900), *Haunts of Ancient Peace* (1902), and *A Lesson in Harmony* (1904). As a journalist he has contributed to the Conservative press, notably the *Standard* newspaper (which he represented at Rome, and as correspondent during the Franco-German war), the *Quarterly Review*, and the *National Review*, of which he was for a time editor. In 1896 he was appointed poet laureate. A collected edition of his *Poems* appeared in 6 vols. (1892).

Austin, CHARLES (1799–1874), English lawyer, younger brother of John, was called to the bar (1827) and was made q.c. (1841). His career as a parliamentary lawyer was unprecedented. His income during the year of the railway mania was estimated at from £40,000 to £100,000. A bril-

liant conversationist, he exerted great influence over a remarkable group, which included Macaulay, Romilly, and Cockburn, at Cambridge. See *Fortnightly Review*, March 1895.

Austin, HORATIO THOMAS (1801-65), English explorer, accompanied Parry in his second expedition in search of a north-west passage. In 1850 he received command of four vessels dispatched in search of Franklin, when he explored from 800 to 900 miles of hitherto unknown coast.

Austin, JOHN (1790-1859), the friend of Jeremy Bentham and John Stuart Mill, was the founder of the modern English school of analytical jurisprudence. He was appointed professor of jurisprudence (1826) in the newly-founded University of London, but in 1832 resigned his chair. He served on two royal commissions—one for the reform of the criminal law (in 1833), the other to examine the condition of Malta (in 1836). The latter may be regarded as his one practical success. But the real work of his life was the summary of his lectures on jurisprudence, the first part of which was published in 1832, and re-edited by his widow in 1861. Additions subsequently appeared, under the editorship of Austin's son-in-law, Mr. Robert Campbell; and the whole work (5th ed. 1885) now contains three parts—*The Province of Jurisprudence Determined*, *The Analysis of Pervading Notions*, and *The Arrangement of Law according to its Sources and Modes*. The first part expounds his much-debated philosophy of law, founded mainly on Hobbes and Locke, and reminiscent of Bentham, but without the depth of the older philosophers or the fecundity of the later. Austin bases the whole authority of law on physical force expressed in definite orders. His language is profuse and involved, but his ideas

are simple, and therefore acceptable to ordinary minds, provided only that they can get through the shell of the language. The second part of the work is admirable and original, showing great acuteness and power of expression. The third part, despite certain obvious mistakes, is likewise suggestive and original. In a word, Austin was a jurist pure and simple, neither a politician nor a philosopher. His liberalism was an accident, and disappeared before the wild French revolution of 1849. His work was for at least two generations a standard textbook in the English universities, and still retains great influence. His doctrine of sovereignty is, from a strictly legal point of view, unassailable. See Sarah Austin's Preface to *The Province of Jurisprudence* (1861); and J. S. Mill's *Autobiography* (1873-4).

Austin, JONATHAN LORING (1748-1826), born at Boston, Massachusetts. Entering the revolutionary army in 1775, he became secretary of the Massachusetts Board of War. After the British surrender at Saratoga he was sent to France (1777) as diplomatic agent of the United States, and afterwards to England on a secret service mission. In 1780 he again visited Europe, to secure loans for the state of Massachusetts.

Austin, STEPHEN FULLER (1790-1836), the founder of Texas, was born in Virginia. He founded the city of Austin in 1821, and for his efforts to obtain the recognition of Texas as a separate state he was imprisoned for four months in Mexico in 1834. In 1835 he assisted General Houston in expelling the Mexicans from Texas.

Austin Friars, a monastery of Augustinians, on the north side of Broad Street, London, founded by the Earl of Hereford in 1253. The site is now occupied by a Dutch church. *Political History of England*, vol. iii. ch. 4 (1905).

Australasia ('Southern Asia'), popular term, sometimes used to comprehend the Malay Archipelago, the Philippines, Australia, and all the islands of the Pacific; at others confined to the British possessions of Australia, Tasmania, and New Zealand, to which New Guinea and Fiji are sometimes added. As a geographical term it is best applied to the greater Australian region, which includes the islands of Australia, Tasmania, New Guinea, the Bismarck, Solomon, and New Hebrides archipelagoes, New Caledonia, and New Zealand. If all this region were above the sea-level, it would form a continent as large as N. America.

Australia is the name applied, at the suggestion of Captain Flinders, to the largest known island of the globe, which lies between $10^{\circ} 39'$ and $39^{\circ} 11\frac{1}{2}'$ s. and $113^{\circ} 5'$ and $153^{\circ} 16'$ e. It properly includes the islands of Tasmania and New Guinea, which are physically continuations of it. Area: Island, 2,946,691 sq. m.; Commonwealth, 2,974,581 sq. m. Pop. Commonwealth 4,400,000. From Steep Point, in the w., to Cape Byron, in the e., is a distance of 2,500 m.; and from Cape York, in the n., to Wilson promontory, in the s., nearly 2,000 m. Australia is bounded on the n. by the Timor and Arafura Seas and Torres Str., on the w. and s. by the Indian Ocean, and on the e. by the Pacific. The coast-line is nearly 12,000 m. in length.

Configuration.—The western half of the continent is a table-land with a mean elevation of between 1,000 and 1,500 ft., culminating in heights which rise from 2,000 to over 3,000 ft., the highest being Mt. Bruce (3,800 ft.). In the s.w. are the Stirling Mts. (3,600 ft.). The western escarpment rises above a narrow coastal plain, and is known under various names—*e.g.* Darling Range.

The central lowlands lie to the e. of the western table-lands. Few rivers cross these to the sea, except the Flinders in the n., and the Darling-Murray system in the s. Most of the rivers flow only after rain, and even then either feed vast shallow salt lakes or disappear in the desert. The largest of these rivers are the Diamantina and Barcoo or Cooper's Creek, from the eastern highlands, and the Finke, from the Macdonnell plateau, flowing into Lake Eyre. This lake consists of two parts, a larger n. sheet of water and a smaller s. one, both nearly 40 ft. below sea-level. Lakes Frome, Torrens, and Gairdner, similarly, are huge depressions filled with salt water after rains. The eastern highlands form undulating grassy downs. Three sections may be distinguished in them: the n., with Mt. Bartle Frere (5,440 ft.), near Cape Grafton, in N. Queensland; s. of the cape, with Mt. Lindsay (5,700 ft.) and Mt. Seaview (6,000 ft.); and beyond the s., comprising the Blue Mts., Australian Alps, Dividing Range, and Tasmanian Alps—Mt. Townsend (7,350 ft.), in the Kosciusko mass, being the culminating point, and also the highest peak in the continent. The Tasmanian plateau averages 3,000 to 4,000 ft., and rises to 5,100 ft. in Ben Lomond, and 5,070 ft. in Cradle Mt.

Hydrography.—Short torrential rivers rush down the steep slopes of the eastern highlands and cross the flat eastern plain, where they become navigable. They are liable to sudden floods, the Brisbane R. having been known to rise 80 ft. The longest rivers flow to the Indian Ocean, the chief being the Darling-Murray, from the gentler w. slope of the eastern highlands. The Murray is navigable to the foot of the highlands for eight months in the year, and the Darling for 500 m. after the rains.

The N. rivers—*e.g.* the Roper, Flinders, and Victoria—also flow in regions of a similar character, and are navigable some distance from the coast. The Fitzroy and Ashburton traverse much drier regions with summer rains, while the Murchison and Swan flow w., where winter rains prevail.

Climate.—The tropic of Capricorn crosses Australia midway between N. and S., and the temperature is never low except on the mountains of the S. Extremes of heat and drought, but not of cold and snow, are the climatic defects. The mean annual temperature varies from 85° F. in the N. to 60° F. in the S. In winter the temperature falls steadily from N. to S., and in summer the hottest region lies in the interior N. of the tropic, and differs little on the N. and S. coasts. In January the average is 84.7° F. at Palmerston, on the N. coast; 85.4° F. at Alice Springs, in the centre (2,100 ft. above the sea); and 79.7° F. at Port Augusta, on the S. coast. In the interior the range of temperature is considerable (30° F.). The sub-tropical high-pressure band which girdles the southern hemisphere crosses Australia, its centre being near the tropic in winter, and near the N. coast in summer. The S.E. trade winds prevail at most seasons over the greater part of the continent. In winter V-shaped low-pressure systems reach the S. shores; in summer the N.W. monsoon blows over the N. ones. In spring, summer, and autumn only the N. margins of the S. storm systems reach S. Australia, drawing hot, dry winds from the interior in front of the centre; but after the centre has passed, strong, cool S. winds ('southerly bursters') bring relief. Most rain falls on the E. coast in summer, and at the same time the interior, N. of a line between Cape Howe and N.W. Cape, has a scanty rainfall.

In Tasmania rain falls at all seasons, but is most abundant in winter.

Vegetation.—Mangroves and pandanus predominate in the N. wet jungles, eucalyptus (300-400 ft.) flourish in the eastern forest region, and tree ferns form part of the undergrowth in the Australian Alps. Jarrah, karri, and other valuable timber trees flourish in S.W. Australia. The downs, subject to occasional destructive droughts, lie W. of the eastern escarpment. In the interior are found dwarf eucalyptus, acacias, and porcupine grass (*spinifex* scrub).

Animals.—Australia has a fauna remarkable for its primitive mammals, and the absence of all higher forms, except species of rodents and bats, and the dingo or wild dog, most probably introduced by man, but now almost exterminated. The Tasmanian devil (confined to that island), the pouched kangaroos, opossums, wombats, bandicoots, the egg-laying duck-mole (*Ornithorhynchus*), and echidna are among the distinctive mammals. Birds are numerous, and among them are running emus and cassowaries, laughing kingfishers, black swans, lyre birds, bower birds, as well as the more familiar pigeons, ducks, geese, and innumerable sea birds. Lung-breathing fish (*Ceratodus*), fresh-water herring (*Diplomystus*), tailless amphibia, whistling spiders, tank-making crayfish, and worms as long as a man, are peculiar to the continent.

Economic Production.—The natural wealth of Australia is its grassy downs, its vast forests of the N., E., and S.W., and its rich mineral deposits, especially of gold. The downs give pasture to millions of sheep, whose wool and flesh are exported. Cattle and horses are kept in the moister regions, and, by tramping down the loose, easily-



Australian Animals.

1. Laughing jackass or laughing kingfisher. 2. Ceratodus. 3. Gray-headed fruit bat. 4. Common Australian echidna. 5. Australian duck-mole. 6. Australian tree-bear or koala. 7. Kangaroo. 8. Common emu. 9. Common wombat. 10. Gould's monitor. 11. Chelmo.

blown soil, prepare the ground for sheep. Dairy-farming is important in the s.e., and much of the produce is exported. Wheat is the cereal of the s., and maize of the n. Grapes, figs, oranges, etc., grow in the s.; and sugar, cotton, tobacco, rice, and arrow-root, together with all kinds of semi-tropical and British fruits, are cultivated in Queensland. Irrigation has enormously raised the economic value of the continent. Gold is found in most parts, especially in the eastern highlands and the western plateau. Diamonds occur in the e. and s. Silver is mined in the eastern highlands and in Stanley Range (Broken Hill), copper in the Yorke Peninsula, while tin is well distributed. Coal is found on the e. coast, especially round the Hunter R., and at Irrawarra in New South Wales, and round Collie Creek in W. Australia. Sydney, capital of New South Wales, is a first-class naval station; and the Commonwealth has a naval force of seven cruisers, four sloops, and a Naval Reserve of over 700 men. Under the Defence Bill of 1909 this navy is to be greatly strengthened.

History.—The n. and w. coasts were discovered by the Dutch in the first half of the 17th century. In 1770 Captain Cook first explored the e. coast, and by the beginning of the 19th century the general outlines of the whole coast were known. The *Beagle*, with Darwin as naturalist, surveyed much of the w. coast in 1837-43; and the *Rattlesnake*, with Huxley, the Great Barrier Reef and e. coast in 1846-50. In 1788, Botany Bay, so called by Sir Joseph Banks and Dr. Solander, was settled by 1,030 persons, most of whom were convicts; but the Blue Mts. proved an insurmountable barrier to penetration of the interior till 1813. During the next quarter of a century the

exploration of the Darling-Murray system and Victoria was made by Hamilton-Hume, Sturt, and Mitchell. Port Phillip was founded in 1835, S. Australia in 1836, but Perth in 1829. The interior was explored by Eyre, who discovered Lakes Torrens and Eyre. In 1840-1 he traversed the barren s. coast for 1,200 m. to the Swan R. settlement. Sturt, in 1844-5, penetrated from the Darling almost to the heart of the continent. Leichhardt first reached the n. coast overland in 1844. The ill-fated Burke and Wills expedition crossed from the s. to the Gulf of Carpentaria in 1861. In 1862 Stuart succeeded in crossing the continent farther w., and in 1872 the overland telegraph line was laid along his route. Warburton and Giles crossed the w. plateau from e. to w., and Forrest from w. to e., by different routes, in the 'seventies.

In 1835 the population of Australia was about 80,000, of whom the majority lived in New South Wales and Tasmania. In 1850 it was about 400,000; but by 1861, owing to the discovery of gold in Victoria and New South Wales, the population had nearly trebled. In the 'fifties responsible government was granted to all the colonies, except W. Australia, which had then very few settlers. Victoria was separated from New South Wales in 1851, and received responsible government in 1855, the year after the mother colony, and the year before S. Australia and Tasmania. Tasmania, previously known as Van Diemen's Land, and for twenty-two years a dependency of New South Wales, became independent in 1825. Owing to the discovery of gold, the population of W. Australia was so increased that responsible government was granted in 1893. On Jan. 1, 1901, the six colonies were proclaimed a British colonial federation of

six states, under the title of 'The Commonwealth of Australia.' The legislature consists of the Crown (represented by a governor-general), a Senate of 36 members (six elected by each of the six original states for six years, half retiring every three years), and a House of Representatives numbering more than twice the Senate, and elected every three years. The members of the House of Representatives sent from each state are proportional to its population, but not less than five in the case of any of the original states. The first House of Representatives had 75 members (New South Wales, 26; Victoria, 23; Queensland, 9; S. Australia, 7; W. Australia, 5; Tasmania, 5). The Federal Parliament controls defence, finance, banking, commerce, communications, census, marriage, emigration, currency, weights and measures, and conciliation in labour disputes. The state parliaments retain all rights not delegated to the Federal Parliament. The executive consists of the governor-general, representing the crown, and an executive council of seven ministers of state. At present Parliament sits at Melbourne, but a site for the Federal capital has been selected in the Yass-Canberra district, N.S.W.

Australian Race.—The native race of Australia (aborigines) is rapidly dying out. Ethnographers differ as to its origin, many holding that the numerous tribes scattered over Australia were not originally of common descent. Sir G. Grey, however, believed that, notwithstanding apparent differences between tribes, their common origin and fundamental unity must be admitted (*vide* Sir G. Grey's *Two Expeditions of Discovery in N.W. and W. Australia*, 1841). The theory that they are of exclusive Papuan descent is untenable, as they are widely separated from

the Papuans of New Guinea by their silky hair, full beards, and contrasted features, no less than by their ignorance of the bow and arrow, the chief weapon of most of the Papuan tribes. But a fundamental connection with the negro stock, whether Oceanic or African, is shown in the dark colour, shape of the skull (highly dolichocephalic, or long-headed), and several other physical characteristics. The Australian aborigine is about the same height as the average European, but is inferior in muscular development. In complexion, different tribes vary from light coffee colour to coal black. Their mental faculties are low, but they have a keen sense of the ridiculous and a great talent for mimicry. Although the native idioms often differ greatly in their vocabulary, the phonetic system, the grammatical structure, and the universal absence of radicals for numerals beyond *two* or *three*, point to a common origin. The natives cultivate no sort of food crop, and have no domesticated animals except the 'dingo,' or native dog, and have no permanent dwellings but mere hovels of boughs or grass, for temporary shelter. In their primitive state the aborigines, male and female, are found entirely naked, or with a tussock of grass, resembling a Scottish sporran, suspended over the loins. In cold weather they sometimes wear a cloak of skins over the shoulders. Cannibalism—formerly, perhaps, universal—is still practised, especially amongst the Queensland natives. They live ordinarily on roots, herbs, berries, fish, birds (including the emu), kangaroos, iguanas, snakes, rats, and several sorts of grubs found in trees. Their principal weapons are spears (which are sometimes tipped with poison), hatchets with stone heads, nulla-nullas (clubs made of hard wood), and the boomerang, a weapon

GENERAL STATISTICS OF THE AUSTRALIAN COMMONWEALTH.

States.	Area in Sq. Miles.	Population, 1905.	Population, est. 1910.	Revenue, 1909.	Expenditure, 1909.	Imports, 1908.	Total Exports, 1908.	Miles of Railway, 1908.	Acres under Crops and Grass, 1908-9.
Victoria	87,884	1,214,098	1,308,705	£ 8,195,403	£ 8,048,643	£ 27,197,696	£ 27,196,201	3,396	4,496,000
New South Wales	310,372	1,504,700	1,643,264	13,625,071	12,882,607	37,642,746	40,985,789	3,472	2,717,085
South Australia	903,690	372,768	417,493	3,551,189	3,259,417	11,231,470	13,778,537	2,025	3,442,295
Queensland	670,500	506,935	589,596	4,766,244	4,756,304	9,471,166	14,194,977	3,359	650,472
Western Australia	975,920	247,072	279,360	3,816,271	3,906,839	6,178,197	9,518,020	1,943	586,489
Tasmania	26,215	178,627	183,387	934,405	960,237	3,248,193	4,068,459	463	244,744*
Total	2,974,581	4,024,200	4,421,805	34,888,583	33,814,047	94,969,468	109,741,983	14,658	12,137,085

* Exclusive of about 380,000 acres of permanent artificially sown grasses.

STATISTICS OF AGRICULTURE.

States.	Harvest of 1908-9.										Live Stock.				
	Wheat.	Oats.	Barley.	Maize.	Potatoes.	Hay.	Wine.	Sheep.	Cattle.	Horses.	Pigs.	Sheep.	Cattle.	Horses.	Pigs.
Victoria	Bushels. 23,345,649	Bushels. 11,124,940	Bushels. 1,654,511	Bushels. 650,462	Tons. 152,840	Tons. 1,416,000	Gallons. 1,437,106	12,545,742	1,574,162	424,903	179,358	12,545,742	1,574,162	424,903	179,358
New South Wales	15,483,406	1,118,343	166,538	5,216,038	71,794	114,618	736,262	43,329,384	2,951,945	590,539	215,649	43,329,384	2,951,945	590,539	215,649
South Australia	19,397,672	1,280,235	825,740	19,043	21,588	591,141	3,132,247	6,952,499	748,368	235,136	81,165	6,952,499	748,368	235,136	81,165
Queensland	1,202,799	38,811	137,667	2,767,600	11,550	92,947	77,698	18,348,851	4,321,600	519,969	124,749	18,348,851	4,321,600	519,969	124,749
Western Australia	2,457,483	741,261	74,433	2,136	6,695	170,008	132,488	4,098,519	742,110	116,850	46,673	4,098,519	742,110	116,850	46,673
Tasmania	706,777	1,946,010	158,645	121,605	98,496	1,728,851	205,827	39,281	47,945	1,728,851	205,827	39,281	47,945
Total	62,593,786	16,243,600	3,017,534	8,655,279	386,072	2,483,120	5,515,801	87,003,846	10,544,012	1,926,678	695,539	87,003,846	10,544,012	1,926,678	695,539

peculiarly their own. They practise polygamy, and morality, as understood by Europeans, is unknown. The aboriginal population was shown by the 1901 census to be less than 22,000, distributed thus: Queensland, 6,670; W. Australia, 6,200; New South Wales, 4,280; S. Australia, 3,880; Victoria, 650. The Commonwealth constitution expressly exempts aborigines from federal control, but the state parliaments have made humane and adequate provision for their protection. They have many curious customs—including, with some tribes, the practice of circumcision—which are fully described in the numerous works on early Australian exploration. The most accurate and recent information about the aborigines is to be found in the periodical reports on the subject issued by the Australian state governments. These may be obtained by application to the agents-general in London of the several states.

See Aflalo's *Natural Hist. of Australia* (1896); *Annual Blue Book* and *Statistical Register* for each colony; Barton's *Outlines of Australian Physiography* (1895); Bentham and Mueller's *Flora Australiensis* (1863-78); Sir J. A. Cockburn's *Australian Federation* (1901); Coghlan's *Statistical Account of the Seven Colonies of Australasia* (1900, annual); Collingridge's *Discovery of Australia* (1895); Froude's *Oceana* (1886); Garran's *Coming Commonwealth* (1897); J. Grattan Grey's *Australasia Old and New* (1901); E. Jenks's *Hist. of Australia* (1902); Saville Kent's *Great Barrier Reef of Australia* (1893); Reeves's *State Experiments in Australia and New Zealand* (1902); Roth's *Queensland Aborigines* (1897); Rusden's *Hist. of Australia* (3 vols. 1883); Russell Wallace's *Rural Economy and Agriculture of Australia and New Zealand*

(1891); Lee's *The Coming of the British to Australia* (1906); Gregory's *The Dead Heart of Australia* (1906); Buchanan's *The Real Australia* (1907); Wise's *The Commonwealth of Australia* (1909); Curr's *The Australian Race* (1888); E. Giles's *Australia Twice Traversed* (1890); G. S. Lang's *The Aborigines of Australia* (1865); C. Lumholtz's *Among Cannibals* (in Queensland) (1890); W. Brough Smyth's *The Aborigines of Victoria* (1878); B. Spencer and F. J. Gillen's *The Native Tribes of Central Australia* (1899); N. W. Thomas's *Natives of Australia* (1906).

Australia, COMMONWEALTH OF, a federation consisting of the six British colonies New S. Wales, Victoria, Queensland, S. Australia, W. Australia, and Tasmania. See COMMONWEALTH OF AUSTRALIA and the several colonies.

Australian Alps, mt. range of S. E. Australia, part of the great Dividing Range, stretching from near Melbourne to the s.e. of New South Wales. Length, about 400 m.; width, about 100 m. The loftiest summits are Mt. Townsend (7,347 ft.) and Mt. Borong (6,508 ft.).

Austrasia, or KINGDOM OF THE EAST (as opposed to *Neustria*, which formed the KINGDOM OF THE WEST), a large part of Frankish Gaul, comprising Thuringia, the duchies of Alemanni, of Bavaria, and Friesland, with all the country between the Rhine, Meuse, and Scheldt. Metz was its capital. Austrasia was founded in 511, and governed from the 6th to the 8th century by a succession of Merovingian kings, ultimately being merged under Charlemagne's successor into Germany, as Neustria was into France.

Austregisille, ST. (551-624). a native of Bourges, who, after filling various offices at the court of Gontran, king of Burgundy, was ordained priest, and granted the

abbacy of St. Niziers at Lyons. In 611 he became bishop of Bourges. His remains were burned by the Protestants in the 16th century.

Austremoine, or STREMONIUS, ST., apostle and first bishop of Auvergne; introduced Christianity into Issoire in the 3rd century, but the Christian community he established was overthrown in the 5th century by the Vandals. The church of St. Paul at Issoire is built on the site of his tomb. His day is November 1st.

Austria. The empire of Austria embraces generally the western half of the Austro-Hungarian monarchy — *i.e.* the duchy of Silesia, the kingdom of Bohemia, the margravate of Moravia, the grand-duchies of Upper and Lower Austria, the duchies of Styria, Salzburg, Carinthia, and Carniola, the county of Tyrol, the dependency of Vorarlberg, the county of Görz and Gradiska, the margravate of Istria, the town of Trieste, a coast strip of the Adriatic — *viz.* the kingdom of Dalmatia, and, since 1908, the provs. of Bosnia and Herzegovina. North and N.E. of Hungary lie the kingdom of Galicia and the duchy of Bukowina, both members of the empire. This large territory stretches from Prussia and Saxony in the N. to Italy in the S., and from Switzerland and Bavaria in the W. to Russia, Hungary, Servia, and Montenegro in the E. The total area reaches 118,000 Eng. sq. m., and the population is close on 32,000,000.

The southern half of the empire is entirely occupied by the ranges and peaks of the E. Alps. The dominating feature towards the Adriatic, especially in Dalmatia, is the barren limestone region of the Karst. In the N., Bohemia is girdled by the ranges of the Bohemian Forest, the Erzgebirge, the Riesengebirge, and other chains of the Sudetic system. Farther S.E.,

the Little Carpathians and the Beskids separate Lower Austria and Moravia respectively from Hungary, and the Carpathians divide this last kingdom from Galicia and Bukowina. The Danube divides the empire into two fairly equal parts — the N. region being drained by the Moldau, Elbe, and March, the Vistula, Dniester, and Pruth draining Galicia and Bukowina; the Inn, the Enns, the Etsch, the Drave, and the Save drain the region S. of the Danube.

Generally speaking, the river valleys are narrow but fertile. The climate is anything but uniform. On the whole it is moderate, being warm in the S. in summer, and severe in the mountainous parts in winter. The mean annual temperature may be estimated from that of certain representative towns — *e.g.* Trieste, 57° F.; Vienna, 49°; Prague, 49°; Cracow, 46½°. The rainfall is heaviest on the Adriatic coast and in the Alpine regions, and lowest in the interior of Bohemia and Moravia. The snow-line on the Alps runs at about 9,200 ft.; on the Carpathians at 8,500 ft.

Notwithstanding considerable progress in recent years in the manufacturing and mining industries, agriculture still continues to be the mainstay of Austria, supporting 55 per cent. of the population. The estates in Upper Austria, Styria, Carinthia, Salzburg, and Tyrol are large; those of Galicia, Moravia, and the Adriatic coast-lands small (8 to 10 ac.). Most arable land is found in Galicia, Bohemia, Moravia, and Lower Austria; most grazing ground in Galicia and Bohemia. Istria, Dalmatia, Lower Austria, Styria, Moravia, Carinthia, etc., have the largest area of vineyards. Forest lands are well divided; the state owns two and a quarter million acres, chiefly in

Galicia, Bukowina, Salzburg, and Tyrol. In addition to the usual cereals, the crops include potatoes, hay, maize, beetroot, turnips and mangolds, flax, hemp, etc. Cattle are carefully bred in the Alpine districts; pigs are fattened everywhere. Bee-keeping is carried on in Galicia, Bohemia, Styria, Moravia, Lower and Upper Austria, etc.

Austria produces considerable quantities of coal and iron—the former mostly in Bohemia, Silesia, Moravia, and Styria; the latter in Styria, Carinthia, Bohemia, and Moravia. Silver and lead and graphite are also mined in Bohemia and elsewhere. Galicia produces large quantities of petroleum and rock salt. Salt is extracted from brine springs in the Alpine districts, and from sea-water in Istria and Dalmatia. Besides the above, there are deposits of tin, copper, nickel, antimony, etc. The revenue from mining and furnace products amounts to about fifteen millions sterling annually. The manufacturing industries enjoy several natural advantages—*e.g.* good water supply, equable distribution of fuel, abundance of raw materials, cheap labour, fairly good and economical means of communication (Danube, etc.), besides being fostered by excellent technical schools, museums, and favourable legislative measures.

Everywhere the domestic industries are common and productive; large industrial establishments are most numerous in Bohemia, Silesia, Moravia, Lower Austria, and Vorarlberg. The industries carried on on the greatest scale are various iron trades; the manufacture of sugar, porcelain, pottery, glass, chemicals, beer, musical and scientific instruments, paper, leather, silk, woollens, cottons and linens, tobacco, bronze and other fancy articles; flour-milling, lace-making, saw-

milling. Fishing is carried on in the Adriatic. In 1908 there were 15,000 m. of railway, 67,500 m. of roads, 4,200 m. of waterways (830 m. being navigable by steamboats). A gigantic system of canals, designed to connect the Danube with the Elbe, is under construction.

Scarcely any country in Europe presents such a complexity of races, tongues, and creeds as Austria-Hungary. In Austria there are Germans, Czechs and Slovaks, Poles, Ruthenians, Slovenes, Serbs and Croats, Roumanians, Jews, Magyars, Italians, Albanians, Armenians, and Gypsies. Roman Catholics form about four-fifths of the whole population, the remainder being Greek Catholics, Orthodox Greeks, Protestants of all sects, Jews, and Mohammedans. The school system is generally based on that of Germany. Higher education is provided in eight universities—Vienna, Prague (two), Graz, Innsbruck, Cracow, Lemberg, and Czernowitz—in technical schools (technical high schools at Vienna, Prague (two), Graz, Lemberg, Brünn (two), and a high school for agriculture at Vienna), mining academies, art and commercial schools, etc. Austria (excluding Hungary) is a constitutional monarchy, the sovereign being the hereditary emperor. The legislative power is vested in the Reichsrath. Universal suffrage came into operation in 1907, every man on entering his twenty-fifth year receiving a vote.

See F. Umlauf, *Die Oesterreichisch-ungarische Monarchie* (3rd ed. 1897); *Die Oester.-ungarische Monarchie in Wort und Bild* (1886, etc.); *Die Länder Oester.-Ungarns*, ed. by Umlauf (13 vols. 1880-4); *Die Völker Oester.-Ungarns* (11 vols. 1881-5); *Oester. Statistisches Handbuch* (annual); *Hausindustrie und Heimarbeit in . . . Oesterreich* (4 vols. 1899).

History.—The present Austro-Hungarian monarchy took its rise in a margravate founded by Charlemagne (end of 8th century) to the east of Bavaria, as a defence against the Avars, and afterwards called Oesterreich, or Austria (first mentioned in 996). In 900 the Magyars seized the Mark, but in 955 Otto the Great again annexed it to Germany. In 974 the Emperor Otto II. gave the Mark of Austria to Leopold I., of the house of Babenberg. This prince showed energy in conquering a large portion of Hungarian territory, and peopling it with German colonists. For some 260 years, till the family died out, the house of Babenberg continued to rule the Austrian lands. The eastern boundary of the margravate was fixed at the Leitha in 1044, and from that time onwards that river formed the frontier between Austria and Hungary. In 1156 Austria was made a duchy by the Emperor Frederick Barbarossa, as compensation for the recession of the duchy of Bavaria, which had been bestowed upon Henry the Free-handed in 1139. The first duke was Henry, nicknamed Jasomirgott (1141–77). Henry's successor, Leopold V., the foe of Richard Cœur de Lion, in 1192 obtained Styria, and Leopold VI. Carniola. In 1246 Frederick the Quarrelsome (1230–46) was killed in a battle against the Hungarians, and with him the Babenberg line became extinct. His death was followed by a period of confusion in the Austrian lands. After some fighting, Ottokar, king of Bohemia, got possession of them (1252), to which he added by inheritance Carinthia and Carniola in 1269; but he lost them all in 1276, through his refusal to recognize as emperor Rudolf of Hapsburg. Rudolf then gave (1282) Austria, Styria, and Carniola in fief to his sons Albert and Rudolf, though Rudolf volun-

tarily retired in 1283; Carinthia being given later (1286) to Count Meinhard of Tyrol, the father-in-law of the emperor. Thus was founded the future greatness of the house of Hapsburg. Till 1365 the Austrian territories were ruled by Albert and his descendants, Tyrol being added in 1364; but in 1379 two of his grandsons, Albert III. and Leopold III., made a division—the former taking Austria, and the latter Styria and the remaining lands. Leopold fell at Sempach in 1386, warring against the Swiss, but his family continued to rule in Styria. Albert V. secured (1437) Hungary and Bohemia by marriage with the daughter of the Emperor Sigismund, and was himself chosen king of the Romans in 1438. From this time the imperial crown was held without interruption by the house of Austria till 1740, when the male line died out. On Albert's death, in 1439, he was succeeded by Frederick V. (Emperor Frederick III. from 1442), duke of Styria, who governed (alone from 1463) till 1493. In 1453 he raised his hereditary lands into an archduchy. Between 1439 and 1526 Hungary and Bohemia were ruled by other princes, but by clever policy and prudent marriages the Hapsburg power steadily grew. *Bella gerant alii; tu felix Austria, nube*, was no less true of the Austrian house in the 15th than it was in the latter half of the 18th century. Frederick's son, the Emperor Maximilian I., was, in his own right, archduke of Austria, duke of Styria, Carinthia, and Carniola, and count of Tyrol, besides having lands in Swabia and Alsace. His death, in 1519, was followed by the accession of his grandson, Charles II. of Spain, to the imperial throne as Charles V. Never before or since was the house of Hapsburg more powerful. The Archduke Ferdinand, brother of Charles, had married

the daughter of Ladislaus, king of Bohemia and Hungary, and on the death of her brother, Louis II., at Mohacz, in 1526, he was elected and crowned king of Bohemia, and also chosen king of Hungary. But in the latter country a powerful party placed John Zapolya, voivode of Transylvania, on the throne, and called in the aid of Solyman the Magnificent, the Turkish Sultan, who twice advanced to the walls of Vienna (1529 and 1532). It was not till the beginning of the 18th century that the Hapsburgs obtained undisputed possession of the whole of Hungary. Ever since the election of Frederick V. to the imperial crown the Hapsburg emperors had endeavoured to extend their hold over the electors and princes, and to lessen their independence. But the outbreak of the reformation movement strengthened the forces of disintegration, and frustrated Charles V.'s hopes of forming a strong centralized German monarchy. The policy of his successors in Austria—Ferdinand I. (1556–64), Maximilian II. (1564–76), and Rudolf II. (1576–1612)—was chiefly dictated by the religious controversies of the age, the last named, a ready tool in the hands of the Jesuits, finally electing for Roman Catholicism, and ruthlessly oppressing his Protestant subjects. Ferdinand II., the Hapsburg emperor (1619–37), made, during the 'Thirty Years' war (1618–48), a last attempt to bring all Germany under the direct control of the Hapsburgs. Never was the dream of the undisputed supremacy of the Austrian house so nearly realized as in the years from 1619 to 1630. Frederick, Count Palatine, was swept in turn from Bohemia and the Palatinate. Wallenstein, at this time the avowed champion of the absolutist ambition of the emperor, and Tilly, at the head of the armies of Ferdinand and the Catholic League

respectively, advanced to the Baltic; and Wallenstein's plan of making the Baltic an Austrian lake, dominated by an Austrian fleet, seemed on the eve of being carried out. But though the opposition of Christian IV., king of Denmark, was easily crushed at Lutter (1626) by Tilly, Stralsund stubbornly resisted, and was never taken; and the intervention (1630) of Gustavus Adolphus put an entirely new complexion on the struggle. From the time of Gustavus's victory over Tilly at Breitenfeld, in 1631, all chance of the establishment of 'the rule of the Jesuit and the soldier' throughout Germany disappeared; and when France, in 1635, joined in, the war ceased to be a religious and became a purely political struggle between the Hapsburgs and the Bourbons. The peace of Westphalia, in 1648, placed the political and religious independence of the German princes on a secure footing; and the emperors, recognizing the impossibility of founding an absolutism, henceforward abandoned their imperial and devoted themselves to purely Austrian interests. The Emperor Leopold I. (1657–1705), by the harshness of his rule and the bigotry of his policy in Hungary, provoked the Hungarians to revolt, and they called in the Turks, who in 1683 laid siege to Vienna. The city was only saved by the arrival of Charles of Lorraine with an army of Germans, and of John Sobieski with another of Poles. Their victories, and those of the Margrave Louis of Baden (at Szalankemen in 1691) and Prince Eugene (at Zenta in 1697) enabled the emperor to force upon the Turks the peace of Carlowitz in 1699. By this he compelled the Turks to cede to Hungary the country lying between the Danube and the Theiss. Meanwhile Ferdinand had been engaged in a long duel with France, which eventually cul-

minated in the war of the Spanish Succession (1701-14), which was prosecuted with equal vigour by his successor, Joseph I. (1705-11). Though the hopes entertained by the Hapsburgs of securing the Spanish succession were not realized, Charles VI. (1711-40) obtained for his house, by the peace of Utrecht (1713) and the treaty of Rastadt (1714), the Spanish Netherlands, as well as Milan, Mantua, Naples, and Sardinia. In 1718, by the peace of Passarowitz, after fresh victories of Prince Eugene at Peterwardein (1716) and Belgrade (1717), the Turks were forced to yield important provinces on the Danube, and in 1720 Sardinia was exchanged for Sicily. Till his death Charles was involved in constant difficulties. In contravention of treaties, he endeavoured to set up the Ostend E. I. C., in order to secure for the Netherlands some of the trade which fell to Britain and Holland; and he made constant efforts to induce the powers of Europe to accept the Pragmatic Sanction, an instrument securing to his eldest daughter and heiress, Maria Theresa, the whole of the Austrian possessions. In 1725 he allied with Spain, and a European war over the Polish succession was only prevented by the want of harmony between the allies, and by the peaceful policy of Louis xv.'s minister, Fleury; while in 1731, when Don Carlos, the elder son of Elizabeth Farnese, queen of Spain, succeeded to Parma and Piacenza, war was averted simply by the diplomatic skill of Walpole. In 1733, however, France, Spain, and Sardinia did attack Charles VI.; and at the peace of Vienna, in 1738, Charles was compelled to cede to Don Carlos Naples, Sicily, and the Tuscan ports, in exchange for Parma and Piacenza. Nor did his misfortunes end here. In 1737 Charles became involved, in conjunction with Russia, in a war against Turkey, in which the Aus-

trians were unsuccessful; and by the peace of Belgrade (1739) he lost the greater part of his gains in 1718. His death, in 1740, threw open to Europe (1) the imperial crown, and (2) the succession to the Austrian possessions. The invasion of Silesia by Frederick the Great of Prussia, and the invasion of Germany by French troops, proved the beginning of the famous Austrian Succession war (1740-8), which in many ways benefited Austria. Maria Theresa (1740-80) had married Francis of Lorraine, who had received Tuscany in exchange for Lorraine. She desired the imperial crown for her husband, and the preservation of the integrity of her ancestral lands. But no sooner had France espoused the cause of the elector of Bavaria in the matter of the imperial crown than the elector himself, together with Saxony, Spain, and Sardinia, advanced claims to different portions of the Austrian possessions. Britain supported the cause of Maria Theresa, and Europe was involved in war. After many vicissitudes, peace was concluded at Aix-la-Chapelle in 1748. Prussia remained in Silesia, and Sardinia secured some districts in Italy. Otherwise the Pragmatic Sanction was carried out. Moreover, in 1745, on the death of the elector of Bavaria, who had been elected emperor, Maria Theresa's husband Francis had secured the imperial crown; while, for the first time in its history, Hungary had remained loyal to the Hapsburgs, and became an integral portion of their dominions. But the Anglo-Austrian alliance was weakened by Maria Theresa's determination to recover Silesia—a determination which brought Austria into alliance with Russia and France in the Seven Years' war (1756-63). The alliance made in 1756 with France constituted what is known as the Diplomatic Revolution, and

continued till the French revolutionary war of 1792. For a time it seemed that Prussia would be overwhelmed. But the courage and skill of Frederick the Great, who was aided by British money, saved his country from destruction; and at the peace of Hubertsburg, in 1763, Maria Theresa was forced to acquiesce in the loss of Silesia, and to recognize in Prussia a formidable rival. Henceforward Austria and Prussia intrigued against each other for supremacy in Germany, and it was not till the Austro-Prussian war of 1866 that the battle of Sadowa finally assured the predominance of Prussia.

Freed at length from the anxieties of nearly a quarter of a century of warfare, Maria Theresa now turned her attention to the internal condition of her country and its peoples. The government was centralized, and ecclesiastical abuses were reformed; industry and commerce were fostered, the condition of the serfs improved, and education encouraged. On the death of the Emperor Francis, in 1765, his son, Joseph II. (1765-90), succeeded, both as emperor and as joint ruler with his mother over Austria; and he developed and expanded Maria Theresa's reforms in every direction. But until her death, in 1780, he was unable to exercise freely his extraordinary energy. He took part with his minister Kaunitz in the partition of Poland in 1772, and in 1778 endeavoured to secure Bavaria. This project was defeated by the resolution of Frederick the Great, who, as in 1745, realized that Austria, if possessed of Bavaria, would be able to impede the growth of Prussian supremacy in Germany. In 1781 Joseph made his famous alliance with Russia, and in 1787 joined with that power in an attack upon Turkey. At the same time he was busily engaged in carrying

out the most far-reaching reforms. He decreed freedom of worship and civil rights to Protestants, and toleration to Jews; he abolished numerous monasteries and convents; he abolished serfdom (1782); he improved the system of education; he insisted on uniformity of legislature throughout his dominions, and on the general use of the German language. These well-meant reforms, inaugurated *en bloc*, roused the conservative feelings of the various divisions of his empire, and stirred up the bitter hostility of the church. His disregard for national prejudices earned special dissatisfaction in Hungary and the Netherlands, and revolt broke out (1788) in the latter province. With the Netherlands in a state of revolution, and the Austrian troops unsuccessful in the Turkish war, the break-up of the Austrian monarchy seemed imminent; for Frederick William II. of Prussia was preparing to take advantage of the Austrian weakness, and had mobilized a large army. This was, however, prevented by the death of Joseph in February 1790, and by the accession of his brother Leopold, archduke of Tuscany. Leopold II. (1790-2) was a statesman, and by his moderation, firmness, and wisdom saved Austria. He quelled the revolt in the Netherlands, and restored their privileges; he made with Prussia the convention of Reichenbach (July 1790), and he concluded the peace of Sistova (1791) with the Turks. This crisis was, however, no sooner over than the conduct of the French revolutionists brought Austria into conflict with France, and in 1792 the great war began. Anxiety with regard to the action of Prussia and Russia in Poland weakened the alliance between the courts of Vienna and Berlin, and contributed to the French successes in 1792 and 1794. Meanwhile Leopold was

succeeded by Francis II. (1792-1804; Emperor Francis I. of Austria, 1804-35). In 1795, by the treaty of Basel, Prussia, Sweden, Spain, and Tuscany retired from the war, leaving Austria, England, and Sardinia to continue the resistance to the French armies. Beaten in Italy in 1796 by Bonaparte, Austria made the peace of Campo Formio in 1797, and received Venetian territory as compensation for the loss of Lombardy and the Netherlands. Henceforward, till 1814, Austria suffered greater and greater territorial losses at the conclusion of each fresh struggle with Napoleon. By the peace of Luneville, in 1801, Tuscany was taken from its Austrian grand-duke, and Austria, as at Campo Formio, recognized the Rhine as the limit of France. After the disastrous Austerlitz campaign, the treaty of Pressburg, in 1805, inflicted new losses upon Austria. Venice, Istria, and Dalmatia were ceded to the kingdom of Italy, and the Tyrol and part of Swabia to Bavaria. On the adoption by Napoleon, in May 1804, of the title of Emperor of the French, Francis II. had erected the Austrian dominions into a hereditary empire, taking the title of Emperor of Austria. The days of the Holy Roman Empire were over, and the treaty of Pressburg was followed by the establishment of the Confederation of the Rhine, under the protectorate of Napoleon. Till the overthrow of the French domination at the battle of Leipzig in 1813, Germany was practically submerged. In 1809 Austria did, indeed, make a heroic effort to recover for Germany its independence, and 'the campaign of Aspern and Wagram is the most glorious in the Austrian annals.' But the peace of Vienna (1809), which closed the war, saw Austria deprived of the whole of W. Galicia (which the minister Thugut had gained for

her at the second partition of Poland in 1795), Trieste, Carniola, Istria, and most of Croatia, which were formed into the Illyrian Provinces, and, at the same time, of the Tyrol and the greater part of Salzburg. Six days before peace was signed Metternich became chief minister in Austria—a position which he held for nearly forty years.

In 1810 Napoleon married Maria Louisa, daughter of the emperor of Austria, and war with Russia became inevitable. During the Moscow campaign (1812) Austria joined Napoleon, but on the retreat of the expedition Metternich took up an independent attitude. When Napoleon refused to accept the Austrian terms, Metternich joined Russia and Prussia (Aug. 12, 1813) in the war of liberation. The overthrow of Napoleon and the reconstitution of Germany went on simultaneously, and from 1815 to 1848, under the influence of Metternich, Austria played an important part in German politics. Having, at the Congress of Vienna, recovered her lost territory, and added to it Lombardy, she naturally opposed all further revolutionary movements, and, with Russia and Prussia, took an active part in the Holy Alliance (1816). In 1835 Francis was succeeded by his son, Ferdinand I. The revolutionary movements of 1848 threatened to bring about the fall of the Austrian empire. Risings took place in Vienna, and in Hungary, Bohemia, and Italy. The Emperor Ferdinand abdicated, and was succeeded by his nephew, the present emperor, Francis Joseph I. With Russian aid the rising in Hungary was put down, though with great severity, and gradually the insurrections in other parts of the Austrian empire were suppressed. The re-establishment of the Austrian monarchy was followed by a movement for the union of Ger-

many. The influence of Prussia was steadily increasing, and in 1850 war between Prussia and Austria seemed imminent. But before the question of supremacy in Germany was decided, Austria entered upon a war with Sardinia and France in Italy, and was beaten in the battles of Magenta and Solferino (1859). In the peace (Villafranca) which followed, Austria gave up Lombardy, except the fortresses of Mantua and Peschiera. In 1864 Austria joined Prussia in wresting Schleswig-Holstein and Lauenburg from Denmark; but in 1866 the allies fell out and went to war. The famous six weeks' war settled once for all the question of Prussian or Austrian predominance in Germany. Beaten at Sadowa, Austria was compelled to recognize the supremacy of Prussia. In 1867 the emperor wisely restored to Hungary the constitution taken from her in 1848, and with his consort was crowned at Pest amid great public rejoicings. At the same time, by the *Ausgleich*, or 'Compromise,' it was agreed that 'the common affairs of Austria and Hungary were to be settled by the delegations chosen by the two Houses.' (See AUSTRIA-HUNGARY.) After the Franco-Prussian war of 1870-1, Bismarck established with Austria and Russia the Alliance of the Three Emperors, to preserve the *status quo* in Europe, and to oppose all revolutionary movements. But owing to the events in the Russo-Turkish war of 1877-8, the friendship of Austria and Russia came to an end, and in 1879 Bismarck signed a close defensive alliance with Austria. In 1882 Italy joined it, and the league has since been known as the Triple Alliance. The treaty of Berlin, in 1878, gave to Austria the protectorate over Bosnia and Herzegovina, and in 1908 these provinces were definitely

annexed to the empire, while the sanjak of Novi-Bazar, which had been under Austrian military occupation, was evacuated and restored to Turkey. This precipitated another Balkan crisis. Bulgaria declared her independence of Turkey, and Servia issued a call to arms and appealed to the Powers for protection. Turkey boycotted Austrian goods, and demanded compensation for the provinces, and peace was arranged by Austria's offer to pay £T2,500,000 as compensation, which Turkey accepted. The growth of the influence of Hungary, together with the expansion of the Slav elements in the Austrian territories, has caused many modifications in the character of the administration. With a population composed of Germans, Czechs, Poles, Ruthenians, Slovenes, Serbs, Magyars, Italians, Roumanians, Jews, and others, it seems surprising that the Austrian empire has held together. The magic link which holds them all together is the personal influence of the Emperor Francis Joseph.

See Bryce, *The Holy Roman Empire* (1862); Fisher, *The Mediæval Empire* (1898); Coxe, *House of Austria, 1218-1792* (1847); Ward, *The House of Austria* (1869); Bright, *Maria Theresa* (1897); Arneth, *Geschichte Maria Theresias* (10 vols. 1863-79); Bright, *Joseph II.* (1897); Arneth, *Joseph II. und Leopold von Toscana* (1872); Whitman, *Austria* (Story of the Nation's Series, 1899); Coldstream, *The Institutions of Austria* (1895); and Colquhoun, *The Whirlpool of Europe: Austria-Hungary and the Hapsburgs* (1907).

Austria, LOWER (area, 7,652 sq. m.), a crown land of Austria, and the E. half of the archduchy of Austria, is divided into a N. and a S. half by the Danube. The S. half is occupied by secondary ranges and foothills of the E.

Alps. The N. is a table-land, tilted E. towards the low plain of Marchfeld. The March R. marks the E. boundary on this side of the Danube, as the Leitha does in part on the S. of that river. Manufacturing employs 39 per cent. of the population, and agriculture 30 per cent. Most factories and mills are in Vienna, but outside the capital there is also much activity. Sawmills abound everywhere, and weaving and allied industries are important, as are brewing and distilling, brickmaking, the manufacture of tobacco, glass, cottons, haberdashery, gold and silver wire, wood pulp, chemicals, sugar, leather, rubber, clocks, etc. The population in 1900 numbered 3,100,493 (mostly of German blood, and Roman Catholic in religion), and of these 1,674,957 were in Vienna. The affairs of the province are administered by a governor nominated by the emperor, and by a committee chosen from among the seventy-eight members of the Provincial Assembly. To the Austrian Lower House of Parliament Lower Austria sends forty-six deputies.

Austria, UPPER (area, 4,626 sq. m.), a crown land of Austria, and the W. half of the archduchy of Austria, is divided into two unequal parts by the Danube. The Inn and its affluent the Salzach separate it from Bavaria. The Traun and other streams drain the S. portion, while the part N. of the Danube is entirely occupied by the Böhmerwald and its tablelands. South of the Danube the Alps and their subsidiary chains cover almost the whole surface. The climate varies with the altitude; it is, however, too cold for the successful culture of the vine.

Nearly 37 per cent. of the entire surface is forest land, but agriculture is the principal industry. Cattle-breeding is also extensively carried on. The

chief mineral is salt (a state monopoly), and lignite, gypsum, millstones, whet and grind stones, and granite are also obtained. Amongst manufactures, which are less developed than in Lower Austria, ironware and cutlery take the first place, chiefly at Steyr, where the well-known small-arms factory is situated. There are manufactures of linens and cottons, india-rubber, leather, paper, and glass. The population in 1900 was 810,246 (almost entirely of German descent, and Roman Catholic in religion). The most important towns are Linz, the capital (pop. 58,788), Steyr (17,592), Wels (12,187), and Gmunden (7,126). The provincial assembly numbers fifty members; the executive is in the hands of a committee chosen from amongst these fifty members, and directed by a governor nominated by the emperor. Upper Austria sends twenty delegates to the Austrian Lower House of Parliament.

Austria-Hungary, a dual sovereignty of Europe, embracing the empire of Austria and the kingdom of Hungary. The two states are perfectly independent of each other, possessing each its own constitution, legislature, and executive for most state affairs. The bond of union is a common monarchy, and a close and intimate political alliance. The present dual agreement was brought about by the *Ausgleich* (Agreement) of 1867. For historical events leading up to it see HUNGARY—*History*. The monarch is *Kaiser* of Austria and *Király* of Hungary, and the crown is hereditary in the Hapsburg-Lorraine dynasty, passing to males by primogeniture and lineal succession, and on failure of male heirs to females. The monarch must be a Roman Catholic, and he is head of the army and the executive. Affairs common to the two states and administered by common ministries are (a) foreign

affairs; (b) military and naval affairs (excluding army legislation); (c) common finance. Each state provides, assesses, collects, and transmits its own contribution. There is a common system of weights and measures, and up to 1907 a Customs Union, in addition to a joint bank of issue, common commercial and political representation abroad, and common monopolies of salt, tobacco, spirits, beer, sugar, gunpowder, and mineral oil. The voting of money to be applied to joint purposes, and the control of the common ministries (of foreign affairs, war, and finance), are exercised by the Delegations, which consist of two bodies, each of sixty members, summoned annually to Vienna and Budapest alternately, and deliberating separately—twenty being chosen from each of the Upper Houses (*viz.* the Austrian Herrenhaus and the Hungarian Főrendiház), and forty from each of the Lower Houses (*viz.* the Austrian Abgeordnetenhaus and the Hungarian Képviselőház). In the case of non-agreement, the delegates, or an equal number of representatives from each delegation, meet and vote, without discussion.

The two diets usually adopt a mutually jealous attitude, and any sign of ascendancy on the part of one body is bitterly resented by the other. Either diet, by refusing its share of the common expenses or quota of troops, can paralyze the financial and defensive powers of the monarchy. That such a contingency is not remote was demonstrated in 1897, on the Customs Union, established by the *Ausgleich*, coming up for renewal, when its continuance had to be decreed by imperial warrant. An arrangement was then made by which it was to continue until 1907. In 1907 it was again renewed for ten years. Hungary's contribution to the

common expenditure was fixed at 36.4 per cent.

Military service is universally compulsory, though all men are not actually called upon to serve with the colours. On a peace footing the forces amount to about 385,000 officers and men, exclusive of the special forces of Austria and of Hungary. In time of war these forces, by drafting in the reserves, amount to 1,600,000 officers and men; while, in addition, a general levy of all men capable of bearing arms may be made, which would enable the dual monarchy to place 3,500,000 men in the field. The navy is organized chiefly for coast defence, and comprises ten or twelve battleships, twelve cruisers, and seventy or more torpedo boats. A war flotilla is placed on the Danube. The chief naval station, strongly fortified, is Pola, but Trieste also serves as a naval base.

The total imports of the empire, including Bosnia and Herzegovina, in 1909, were £115,800,000, and the exports £96,400,000. Of the imports, over 7 per cent. came from the United Kingdom, and of the exports, over 10 per cent. went to the United Kingdom. The largest trade, however, is with Germany. The chief imports and exports are as follows:—Imports: raw cotton, wool, coal and coke, tobacco, instruments, watches, fancy goods, leather and leather goods, seeds, machinery, cereals, coffee, cattle, woollen yarn, eggs, silk goods, wine. Exports: wood, sugar, cattle, eggs, cereals, coal, leather goods, woollen goods, malt, and horses. For bibliography see AUSTRIA and HUNGARY.

Austria, DON JUAN D', an obsolete Austro-Hungarian battleship, named after Don John, a natural son of the Emperor Charles V. The name has also been given to a cruiser launched in 1887 for Spain, and captured

at the battle of Manila by the American admiral Dewey.

Austrian Lloyd Steam Navigation. This line of steamships, established about 1836, runs between Trieste and various Adriatic, Mediterranean, and Levant ports, in addition to services to India, China, and Japan. The company owns a large fleet of small steamers; and when those vessels in course of construction are completed, it will own sixty-eight steamers, aggregating 236,912 tons. London offices: 104 Bishopsgate Within, E.C.

Auteuil, former vil. of the dep. of Seine, France, now incorporated in Paris, is situated on the r. bk. of the Seine, near the Bois de Boulogne, and has cold mineral springs. See PARIS.

Authon, JEHAN D' (c. 1466-1527), chronicler and poet, became historiographer to Louis XII., whom he accompanied to Italy. He died at Poitiers. See his *Chronique du Roi Louis XII.*, republished by Jacob (1834-5).

Author and Publisher. See COPYRIGHT and PUBLISHING.

Authors, THE INCORPORATED SOCIETY OF, owes its foundation in 1883 to Sir Walter Besant and other well-known writers. In 1884 it was incorporated under the presidency of Lord Tennyson. Its objects are to defend the interests of literary, dramatic, and musical property. It issues works of guidance to authors, and advises authors on matters of publishing and proprietary interest. A pension fund has been established. The annual subscription is one guinea, and the secretary is G. H. Thring, 39 Old Queen Street, Storey's Gate, S.W. There are about 2,000 members and associates: members must have written a book. The society publishes a monthly journal, *The Author*. Mr. Thos. Hardy succeeded Meredith as president in 1909.

Auto, in Spain and Portugal a kind of short religious play, analogous to the miracle and mystery play of the middle ages. They were greatly in vogue from the 12th to past the middle of the 18th century; but were forbidden in Spain in 1765, though they are still represented in Portugal. The Spaniard Encina (c. 1469-1534) and the Portuguese Gil Vicente (c. 1475-1536) wrote several of these. In Spain, Lope de Vega (1562-1635), Calderon (1600-81), Gabriel Tellez, better known as Tirso de Molino (c. 1585-1648), and others, wrote several opera-like *Autos Sacramentales*, which were usually represented during the great processions of the festival of Corpus Christi. Four volumes of these were edited by Rouanet at Paris in 1901-2.

Autobiography, or the record of one's own life, is a province of letters of which we do not find many instances in the earlier stages of history. It is in the later works of Hebrew Scripture that the prophet or historian describes his own actions or fortunes in the first person; and if in the New Testament St. Paul may be said to be his own biographer, this is only by way of apology, either in speech or letter. The father of history, Herodotus, was also a traveller, and therefore confirms his statements, when he can, by his own experience; the same may be said of his mediæval counterpart, Froissart, whose personality, however, emerges more distinctly in his Chronicle. In contrast with this (we make no attempt at chronological sequence in an article necessarily rather suggestive than complete) is the self-effacement of Thucydides, the historian of the Peloponnesian war, who mentions in two words that he himself was stricken in the great plague of Athens which he graphically describes, recounts in the briefest terms his failure to relieve

Amphipolis, and speaks later and quite incidentally of the opportunity of watching at leisure the progress of events which his consequent banishment afforded him. Xenophon is more communicative about himself; yet he writes in the third person, as did Cæsar in his *Gallic War*—two notable instances of autobiography, real but not professed. A man is no less his own biographer when he writes letters which he himself and his friends for him are careful to preserve: the *Life of Cicero*, whether written by Middleton or Strachan Davidson, must be gathered in great part from his letters; as must the *Life of Erasmus*, whether written by Jortin or Froude. We should know little of the life of the younger Pliny but from his own letters, written, after the model of Cicero's, with the same careful eye upon the world and posterity, and including his famous consultation of Trajan as to the treatment of the Christians in his province, and his account, as an eye-witness, of the destruction of Herculaneum and Pompeii, which, like Pepys's narrative of the fire of London, comes to us out of the past with the distinctness of a living voice. This reminds us that the diary is another form of autobiography. The deciphering of that of Pepys, in 1827, is among the most interesting achievements of modern times; as among the most precious of modern *trouvailles* is Evelyn's, found in an old clothes basket in 1817; both throw a vivid light upon history, character, and manners in England in the 17th century. Scarcely less valuable for the 18th and early 19th century is the *Diary* of Mme. D'Arblay (Fanny Burney, authoress of *Evelina*, etc.).

The contemplative and the religious life lean to autobiography, and the solitary falls back upon his memories. The Emperor Marcus Aurelius (Antoninus, A.D.

121-180) is said to have written an autobiography which has perished; but the first book of his *Meditations* is an account of his early education, and a tribute to his teachers. Almost all that is authentic about the ill-used minister of the Gothic emperor Theodoric—Boëtius, who was put to death A.D. 525—we learn from his own incidental statements, among the most valuable of which are those in the first book of his *De Consolatione Philosophiæ*, written in prison. But the first memorable autobiography, in the strict sense of the word, is the *Confessions* of St. Augustine, written c. 397 A.D. Its modern counterpart is Newman's *Apologia pro Vita Sua*, provoked by a careless remark of Kingsley's in *Macmillan's Magazine* (Jan. 1864). Under the title *History of my Religious Opinions*, it still remains a most interesting and pathetic record, but it has lost much that made it a miracle of dialectic skill. Between these two great names lie religious autobiographies almost innumerable — Bunyan's *Grace Abounding to the Chief of Sinners*, simple and touching; the self-revelations of William Huntington, S.S. (*Sinner Saved*), vainglorious and grotesque (1745-1813). The friend of Cowper, the Rev. John Newton, wrote the story of his own conversion and the strange vicissitudes of his early life. Cowper himself wrote an autobiographical fragment; and we have also the 'experiences' preserved in the *Journals* of Wesley and of Whitefield. 'There is no end of them,' writes Macaulay, significantly adding that Goethe (in a digression in *Wilhelm Meister*) is the only unbeliever who has imitated them with success. In France, Madame Guyon (d. 1717), the Quietist, whose verses Cowper translated, was her own biographer. Of wider literary interest,

and the record of a quiet life in a somewhat different sense, is the *Journal* of Eugénie de Guérin (1834 *seq.*), of whom Matthew Arnold has given a sympathetic account in his earliest volume of *Essays*. French literature is rich in *Mémoires*, more or less autobiographical. Those of Sully, the great minister of Henry IV., are more uniformly personal than those of Saint-Simon, which throw much light upon the times of Louis XIV.; those of De la Porte, page to Anne of Austria, for whose sake he was sent to the Bastille, are interesting, especially in connection with Mazarin and the early life of the Grand Monarque. Perhaps the English counterpart to Sully is Clarendon, whose *Life*, written by himself, is a sequel to his *History of the Rebellion*. Montaigne makes no secret of the fact that he wrote his *Essays* about himself; his biography may be written from them; and what self-love did for him, affection did for Madame de Sévigné, whose letters, mainly to her daughter, are the best revelation of her own life and character. The *Mémoires* of the Baroness de Staël-Delaunay (d. 1750) anticipated in interest and vivacity the *Diary* of Madame D'Arblay. She must not be confused with the more famous Baroness de Staël-Holstein, who is directly autobiographical in her *Dix Années d'Exil*, and indirectly in everything else she wrote. In her *Delphine* she idealizes herself, her friends, and her enemies. ('I am told,' said Talleyrand, 'that you have put yourself and me in your book—both under the disguise of women.') She is herself the 'Corinne' of her most famous work, and is a good instance of the tendency to mingle truth with fancy in reminiscence. It is charitable to suppose that the most morbid aspects of Rousseau's remarkable *Confessions* are due to exaggeration; and when Goethe

wrote his far healthier *Aus meinem Leben*, he added as a second title, *Wahrheit und Dichtung*, that it might be understood that he had given imagination a certain range. Similarly, readers of De Quincey's *Confessions of an English Opium Eater* or Borrow's *Lavengro* will not take all for gospel.

It is a reflection on humanity to note how much autobiography owes to the prison. The patriot Silvio Pellico wrote much, but is only remembered by *Le mie Prigioni*. The Prussian, Trenck, speaks of many books of his which no one has ever read, but the account of his adventures and ten years' imprisonment in Magdeburg is still amusing: combine parts of *Barry Lyndon* with parts of *Monte Cristo*, and you can form some notion of the work of this splendid liar. The unedifying Casanova de Seingalt (d. 1798) made a daring escape from the *piombi* at Venice, and lived to write his cynical story in many volumes. Another gifted rascal among autobiographers, Benvenuto Cellini, Goethe thought it worth while to translate: for a delightful account of this strange artist, see the essay 'A Rogue's Memoirs' in Birrell's *Obiter Dicta*. The artist life is seldom of this complexion, although it is sometimes, as in the autobiography of Haydon, a story of blighted hopes, and in the journal and letters of Marie Bashkirtseff (b. 1860; d. 1884) of brilliant promise cut short by death.

The strenuous life has not often much leisure or inclination to keep its own record, yet a very noteworthy autobiography is that of Benjamin Franklin—a little too self-complacent, not altogether pleasant reading, yet throwing interesting light upon the condition of Massachusetts and Boston, Pennsylvania and Philadelphia, while these were still British dependencies. Cobbett's American

career, coincident with the early days of American independence, has the same historic interest: he tells it (1798) in the *Life and Adventures of Peter Porcupine* (his *nom de guerre*). Even Nelson has given a brief and fragmentary account of himself in manly, sailor-like fashion; and the autobiography of the ill-used Lord Dundonald is a spirited record of brilliant enterprise; whilst the *Two Years before the Mast* of the American Dana is one of the best sea-books ever written.

Of the pursuit of knowledge under difficulties, Franklin, already cited, may pass as an example; but the 18th century supplies us with two others who have left a record of their struggles: these are Ferguson (James), the astronomer and mechanic, the shepherd boy who mapped the stars for himself by means of a stretched thread strung with beads; and William Hutton, the historian of Birmingham, whose early hardships are a sad and cruel story. In contrast with these are Colley Cibber's *Apology for his Life*—by far his best work—and the *Memoirs* of Gibbon, which leave on us the impression of a self-centred man, mainly concerned to vindicate his own tastes, studies, and opinions. Walpole's *Short Notes of my Life* are a chronological epitome of the little labours of a dilettantist. A pretty record of his own early life is given by Walter Scott (see Lockhart's *Life*). Wordsworth has left his own autobiography; but Wordsworthians will set more value on the reminiscences in *The Prelude*. The valuable *Biographia Literaria* of Coleridge is to the ordinary reader a wilderness of criticism and philology, with oases of personal history. The autobiography of Leigh Hunt (1850) was praised in the highest terms by Carlyle; it is noteworthy that, soon after its publication, the author was de-

scribed by his friend Dickens in *Bleak House* in the guise of the irresponsible and ungrateful 'Harold Skimpole.' As we approach our own days, selection on the subject becomes practically impossible; vanity, goaded by the interviewer, overcrowds the scene. Yet there emerge very distinctly Hugh Miller's story of his early days, in *My Schools and Schoolmasters*, and the autobiographies of John Stuart Mill and Carlyle—the first valuable as an acknowledgment that the severest thinkers have their spiritual needs, and the second as a tardy tribute to the worth and genius of a much-enduring wife. Harriet Martineau's autobiography delights the English positivists—'fit audience, though few.' Various eminent lawyers, Ballantyne, Montagu Williams, and Lord Brampton, have recorded their amusing experiences of the seamy side of life; amidst public entertainers, the Bancrofts and Miss Ellen Terry have disclosed in the most interesting fashion the secret history of the stage. Ruskin's *Præterita*, and Huxley's very brief autobiography, present in effective contrast the imaginative and scientific attitude in face of the great problems that vex humanity; and the reminiscences of Mark Pattison and Augustus Hare have confirmed the nascent suspicion that autobiography is destined to add a new terror to the living.

Auto-cars. See MOTOR CARS.

Autoclave, or DIGESTER, is an apparatus for heating substances under pressure. It usually consists of a strong iron or steel pot, provided with a cover that can be bolted on air-tight, and is often lined with an acid-resisting material. It is usually provided with a safety-valve, and is often swung on trunnions for convenience.

Autocles, an Athenian general and orator of the 4th century B.C. In 371 he negotiated a peace with the Spartans, and in 362 conducted an expedition into Thrace.

Autocracy. See GOVERNMENT.

Auto da Fé. See INQUISITION.

Autodidactus, THE ('Self-taught man'), an Arabic romance setting forth the growth, into knowledge of nature and God, of a child cast upon a desert island; by Abu-Bekr-ibn-Tofail (Lat. trans., *Philosophus Autodidacticus*, E. Pocock, 1671; Eng., *The Improvement of Human Reason*, S. Ockley, 1711).

Autographs, documents of any kind in the handwriting of their authors (Gr. *αὐτογράφα*). Interest in autographs was first shown in the vogue of the album, or *Liber Amicorum*, which seems to have begun in Germany as early as the 14th century, and has continued in the form of visitors' books to our own day. The British Museum contains several of these albums, with signatures of celebrities of the reigns of Elizabeth and James I., in whose time they were especially popular. The collection of detached autographs is said to have begun in France as early as the 16th century; in England the first notable collector was the antiquary Ralph Thoresby, who died in 1725. The finest modern collection in private hands is that formed (1865-82) by Mr. Alfred Morrison, of which a descriptive catalogue, in six volumes, with facsimiles, was printed between 1883 and 1892. In 1910 seven autograph letters and some autograph verses of Pope and eighteen letters of Cowper sold for £150. In the same year a series of ninety letters of Charlotte Brontë brought £120 at Sotheby's. The best books on the subject are: *Autographs of*

Royal, Noble, Learned, and Remarkable Personages.....from the Reign of Richard II. to that of Charles II., by J. G. Nichols (1829); *The Handwriting of the Kings and Queens of England*, by W. J. Hardy (1893); *Facsimiles of Royal, Historical, Literary, and other Autographs in the British Museum* (1895-9); *A Guide to the Collector of Historical Documents, Literary Manuscripts, and Autograph Letters*, by Dr. Scott and Samuel Davey (1891); Hodgson's *Rariora* (1902); and Broadley's *Autographs* (1910).

Autogravure. See PHOTOGRAPHY.

Auto-intoxication. Some years ago the distinguished French clinician Bouchard wrote a treatise on auto-intoxication or self-poisoning, and since that time attention has been increasingly directed to the subject. Within the last year or two a further stimulus to the investigation of this subject by clinicians has been given by the researches of the eminent savant Metchnikoff, who has strongly advocated the use of various preparations of lactic acid bacilli in the treatment of this condition. Auto-intoxication implies a poisoning of certain of the tissues by certain poisons elaborated in the body. These poisons may be of a chemical or bacterial nature. It may arise from a gradual retention of certain waste products in the blood stream, and their later deposit in the tissues as a result of the defective action of the liver, which normally acts the part of a filter neutralizing the effects of injurious products produced in the normal process of digestion. Another cause is defective elimination of the poisons which are normally excreted by the kidney, hence auto-intoxication is common in cases of nephritis and other forms of kidney disease, and is seen in its severest form in the condition of uræmia

(see NEPHRITIS). The most important cause of auto-intoxication, however, is the absorption of chemical or bacterial toxins from the alimentary canal as a result of long-continued dietetic errors. The liability to it is most pronounced in subjects with decayed and septic teeth, the continuous swallowing of small quantities of septic material inducing a perverted action of bacterial activity in the lower part of the bowel. The most common errors in diet are excess of rich animal food, and excess of carbohydrate or starchy food. A rich protein diet leads to excessive putrefaction of proteins under the influence of bacteria, with resulting formation and absorption into the blood of poisons—neurin, cadaverin, and the like—which injuriously affect the heart, blood-vessels, and nervous system. Excess of carbohydrate leads to auto-intoxication from the excess of acids—carbonic, lactic, butyric, etc.—that arise from normal fermentation of starchy foods. Much discussion is taking place as to the diseased conditions that are actually induced by auto-intoxication. There is, however, general agreement that many minor maladies, headache, various rheumatic and gouty manifestations, and neuritis, frequently arise in this way; and of more serious affections, arterio-sclerosis (see VESSELS), heart disease, Bright's disease, and cerebral hæmorrhage are by many authorities regarded as sequelæ of long continued auto-intoxication. According to Metchnikoff, the prevention of auto-intoxication is the keynote to a healthy old age. The treatment is prophylactic and curative. The former comprises moderation in eating and drinking, and specially restriction in the amount of rich animal food and of sweets, special attention being paid to thorough mastication of the food. Careful regula-

tion of the bowels and attention to the toilet of the mouth are also of paramount importance. Value also attaches to the use of so-called intestinal antiseptic substances which control the abnormal bacterial activity in the small and large intestines. These include lactic acid bacilli, which are the subject of a special article, and drugs such as calomel, salol, beta naphthol, and the like. One or two grains of calomel given each night for a week followed by a moderate saline of requisite strength is a useful measure. Washing out of the bowels daily by large quantities of normal saline fluid (intestinal lavage) is also of great service. As in most cases there is an associated defect in elimination, attention must be directed to other organs of excretion, notably the kidneys and skin. The function of the kidneys should be promoted by the administration of one or two pints of fluid—plain or alkaline water—daily on an empty stomach; and the action of the skin should be stimulated by hot water or Turkish baths. Subjects who suffer from auto-intoxication have continuously to keep up prophylactic treatment along the lines laid down above.

Autolytus, an ancient Greek hero, the son of Hermes, and father of Anticleia, the mother of Odysseus. He was famous for his craft and cunning, and is said to have been able to render himself and his stolen goods invisible. He was at last outwitted by Sisyphus. See SISYPHUS.

Autolytus OF PITANE (c. 300 B.C.), Greek astronomer, wrote two works on the sun and stars, ed. by Hultsch: *Autolytice Sphærague movetur de Ortibus et Occasibus* (1885).

Automatic Action, a term applied in physiology to instinctive or involuntary movements. It is impossible always to dis-

tinguish them from reflex action, though theoretically the first proceeds from an internal impulse, the second from an external. Sleep-walking may be given as an example of automatic action. The involuntary movement of the eyelid, when threatened with a blow, is reflex.

Automatic Machines. See MACHINES, AUTOMATIC.

Automatism, the doctrine according to which all the actions of living beings, including the voluntary actions of man, can and must be completely explained in purely physiological terms; so that consciousness or volition, where it occurs, is merely a concomitant of the bodily movement (or the brain change), but has no part in bringing it about. See Huxley's essay on 'The Hypothesis that Animals are Automata' (*Collected Essays*, vol. i. 1898); and, for criticism, Ward's *Naturalism and Agnosticism* (1899).

Automaton (Gr. 'self-moving'), a machine contrived to imitate the motions and actions of some living creature. In ancient history many automata are reported as having been invented by Archytas, Hero, and others. The most famous modern invention was Vaucanson's flute-player, exhibited in Paris in 1738, which imitated to the life an executant on the instrument. Other automata in Germany, Austria, and Hungary were also musical, and some represented persons writing words and sentences, the best known being the chess-player of the Hungarian Kempelen, brought to London in 1783, which was in reality no automaton, but was found to be managed by a clever player of diminutive size ingeniously concealed in the interior: the public were allowed to examine only part of the mechanism at a time. All automata, however, have been surpassed by the specimens invented by

Mr. Maskelyne, and exhibited at the London Egyptian Hall—*e.g.* 'Psycho' (1875), a figure seated on a glass cylinder, which played cards against all comers, and worked arithmetical questions of great difficulty; 'Zoe' (1877) drew on a paper the likeness of any person selected by the onlookers from a list of two hundred notabilities.

Automobiles. See MOTOR CARS.

Autonomous States are those in which the citizens have a certain degree of self-government. Sometimes the term is employed to designate a state which, while possessing internal autonomy, is, as regards its foreign relations, under the suzerainty of another power.

Autonomy, in its philosophical sense, a term used by Kant to express the principle that the moral reason, or conscience, cannot recognize as binding any law which is not affirmed by the moral reason itself, but merely imposed from without, and supported by an appeal to non-moral or interested motives (ultimately pleasure and pain). A law thus imposed from without is termed by Kant *heteronomous*. In its political use the word denotes the status of self-government.

Autopsy. See POST-MORTEM EXAMINATION.

Autotype. See PHOTOGRAPHY.

Autrefois Acquit—Autrefois Convict. A man is not to be tried twice for the same offence, and a person so charged may plead verbally or in writing *autrefois acquit* or *autrefois convict*—*i.e.* that he has already been acquitted or convicted on the same charge, either at home or abroad, by a court of competent jurisdiction. In Scotland the plea is 'tholed an assize.'

Autumn is that season of the year which begins astronomically in the northern hemisphere when the sun enters the zodiacal sign Libra—*viz.* about Sept. 23. In the

southern hemisphere this is the beginning of spring. The beginning of the sign Libra is at the intersection of the equator and the ecliptic, or the point of the sky at which the sun crosses from north to south of the equator. This is known as the autumnal equinox, and day is then equal to night all over the world. Autumn ends and winter begins on Dec. 21, when the sun has reached its lowest position south of the equator. The Americans call the autumn 'the fall,' a term formerly in good literary use in England.

Autun (anc. *Augustodunum*), dist. tn. and episc. see, dep. Saône-et-Loire, France, on the Arroux, 55 m. N.N.W. of Mâcon. It has Roman remains, such as a theatre, and the Pierre de Couhard, a pyramid of masonry 88 ft. high. The cathedral, begun 1060, dates mainly from the 12th century, and has a beautiful spire of the 15th century. Industries, especially textiles, tanning, paper-making, and brewing, are important. Originally the seat of a Druidical school, it was under the Romans famous for its school of rhetoric. It was sacked by the Vandals in 406, by the Burgundians in 414, by the Huns in 451, by the Franks in 534, by the Arabs in 739, and by the Normans in 895. It was burned by the English in 1379, and suffered from plague in 1494 and 1564. In 1870 Garibaldi checked the Germans before Autun. Pop. 15,000.

Auvergne (*Arvernia*), former prov. of Central France, now forming the dep. of Puy-de-Dôme, Cantal, and the N.W. of Haute-Loire. The cap. was Clermont-Ferrand, though at one time that town was independent, and the rest of the province was divided into a dukedom (cap. Vodable) and a county (cap. Vic-le-Comte). The province belonged for a long time to the Comte de Toulouse, and then to the house of Bour-

bon, but has been French since 1531. See Audijiers's *Histoire d'Auvergne* (1894) and Barker's *Through Auvergne* (1884).

Auwers, ARTHUR (1838), German astronomer, born at Göttingen; director of the new observatory at Potsdam (1881), and conductor of expeditions for observation of transits of Venus (1874 and 1882). His works include *Untersuchungen über veränderliche Eigenbewegungen der Fixsterne* (1862); *Katalog von 9,789 Sternen* (1896); *Determinations of the Solar Parallax* (1896, with Sir D. Gill at Cape Town).

Aux Cayes, CAYES, or LES CAYES, tn., Haiti, West Indies, on the s. coast, 95 m. W.S.W. of Port-au-Prince. Exports coffee and logwood. Pop. about 20,000.

Auxerre (Rom. *Autissiodorum*), tn., cap. of dep. Yonne, France, on the slope of a hill, rising from the l. bk. of the Yonne, 110 m. S.E. of Paris. The beautiful cathedral of St. Etienne mainly dates from the 13th to the 15th century, and the abbey St. Germain, with a tower of the 14th century, is now a school. The prefecture was formerly the bishop's palace. There are manufactures of cloth, and a trade in wines, bricks, leather, and ochre. Pop. 21,000.

Auxetophone. See TALKING MACHINES.

Auxiliary Forces. See TERRITORIAL FORCE, and also MILITIA and YEOMANRY.

Auxonne (anc. *Assonum*), a fort. dist. tn., dep. Côte d'Or, France, on the l. bk. of the Saône, 19 m. S.E. of Dijon. It contains a church of Notre Dame, erected from 1309-60, and a fortified château in the Renaissance style. Manufactures of cloth, muslin, etc. Pop. 6,300.

Auzout, ADRIEN (1630-91), French mathematician, born at Rouen. Inventor of the micrometer, and one of the first members of the Academy of Sciences.

He published *Traité du Micro-mètre* (1667).

A.V., abbreviation for Authorized Version.

Ava. See KAVA.

Ava, ruined city on the l. bk. of the Irawadi; was the cap. of Burma from 1364 to 1740, and again from 1822 to 1838. Its many temples, and a sandstone image of Gautama, 24 ft. in height, were destroyed by an earthquake in 1839. See Trant's *Two Years in Ava* (1827).

Ava. See DUFFERIN AND AVA, MARQUIS OF.

Avalanche, a mass of snow or ice which slides or rolls from the mountain slopes into the valleys, often causing great damage to villages and forests. Four kinds are distinguished—(1) *Drift A.*, formed of powdery snow driven before a gale; (2) *Rolling A.*, hard snow rolling down and gathering bulk as it goes; (3) *Sliding A.*, snow impelled by its own increasing weight; (4) *Glacial A.*, a mass of frozen snow and ice detached from a glacier in spring, when the snow begins to melt.

Avallon (anc. *Aballo*), tn., France, Yonne dep., 30 m. S.E. of Auxerre. There is a fourteenth-century church, and a fifteenth-century belfry tower. Pop. 5,800.

Avalon, 'the island-valley of Avilion' of Tennyson's *Morte d'Arthur*, is the paradise of the departed heroes of Celtic tradition. Its 'magic apples' suggest a connection between Avalon and the garden of the Hesperides. The Celtic legends of the journey to the soul-kingdom formed one of the sources of Dante's poem. For one of the most perfect of them see Whitley Stokes's trans. of *Fis Adamnain*.

Avalon, peninsula, S.E. Newfoundland, with Trinity Bay to the N. and Placentia Bay to the S.; contains St. John's, the cap.

Avanturine, an artificial glass in which red spangles of copper are scattered; also a kind of quartz in which small plates of brown mica produce a similar effect. The natural can be distinguished from the artificial avanturine by its being harder than a steel knife-blade. It is used in brooches, umbrella handles, vases, and other ornaments. The best specimens come from the Urals: a vase 4 ft. high, carved from a single block of Siberian avanturine, presented by Nicholas I. to Sir Roderick Murchison, is now in the Museum of Practical Geology, London. A green variety comes from India.

Avaris, ancient tn. of Lower Egypt, on the isthmus of Suez, near Pelusium, headquarters of the invading Hyksos, or shepherd kings. These people were finally besieged in Avaris by Aahmes I., founder of the 18th dynasty, and the city was captured, and the Hyksos driven into S. Palestine.

Avars. (i.) A people of Ural-Altaic race, who dwelt on the steppes of the Don, near the Sea of Azov, later also near the Caucasus. In 558 A.D. they offered their services to the Byzantine emperor Justinian, who commissioned them to subjugate the Bulgarians, who had invaded Mœsia (now Bulgaria). Having performed this task, they settled in Pannonia (the present Hungary), and in 566 helped the Longobards to break the power of the Gepidæ, or Goths. Then they extended their dominion over Dacia and the territories between the Alps and the Black Sea. But they were very troublesome neighbours, and made frequent incursions into the Byzantine empire (581), against the Franks (596) and against the Longobards (610). In 619 they plundered the country round Constantinople. After the death (630) of their chief, Bajan, their downfall was rapid, and the peoples under their domina-

tion liberated themselves one after the other. Nevertheless, during the 8th century they made frequent incursions into Germany and Italy, until Charlemagne took the field against them, and completely destroyed their power in 796. After that they became merged in the Bulgarians and the different Slav peoples of the Danube region; and after the middle of the 9th century scarcely anything more is heard of them. (2.) People, allied to the Lesghian stock, dwelling in the Khanate of Avaria, Daghestan.

Avasaksa, isolated hill, Russian Lapland, on the l. bk. of the Torneå, 40 m. N. of its mouth. It is much frequented in summer, as it affords a fine view of the midnight sun.

Avatar (Sans. 'descent'), applied to the 'descent' (incarnation) of the principal deities in Hindu mythology; especially applied to Brahma, Siva, and the ten incarnations of Vishnu.

Avatcha, or AVACHA, bay, tn., and active volcano with double peak (8,500 and 10,000 ft.), S.E. Kamchatka. The mountain was in active eruption in 1827, 1837, and 1855. Petropaulovsk is on the E. shore of the bay.

Avebury, or ABURY, Wiltshire, England, an ancient artificial mound and 'Druidical circle' or 'heathen temple,' now almost obliterated. It resembled Stonehenge, which lies 17 m. due s. of it. A plan of the circle, made by Dr. Stukeley (*Stonehenge and Abury*, 1740), shows it as then almost complete, while two smaller circles were still traceable within it. The great circle was about 1,400 ft. in diameter, and was marked by 100 upright stones, of which some stood 20 ft. above the ground. See Sir R. Colt Hoare's *Ancient Wiltshire* (1812-44).

Avebury, SIR JOHN LUBBOCK, FIRST BARON (1834), banker and scientist, was born in London,

and educated privately and at Eton. Entering his father's banking business (Robarts, Lubbock, and Co.) in 1848, he became a partner in 1856. He was vice-chairman of the London County Council (1889-90), and chairman (1890-92); as well as president of the Linnean Society (1881-6). After representing Maidstone in Parliament from 1870-80, he sat for London University (1886-1900). In the latter year he was raised to the peerage as Baron Avebury. His name is associated with over twenty important measures, including the Bank Holidays Act (1871). Avebury has most distinguished himself by his anthropological researches and observations of insect life, more especially of bees and ants. Among his numerous works are *Prehistoric Times* (1865; new ed. 1900); *The Origin of Civilization and the Primitive Condition of Man* (1870; 1902); *The Origin and Metamorphoses of Insects* (1873); *On British Wild Flowers* (1873); *Monograph on the Collem-bola and Thysanura* (1873); *Fifty Years of Science* (1882); *Ants, Bees, and Wasps* (1882), which has run through fourteen editions; *The Pleasures of Life* (1891), by far his most popular work; *The Senses and Instinct of Animals* (1888); *Flowers, Fruits, and Leaves* (1886); *On Representation* (1890); *The Beauties of Nature* (1892); *The Use of Life* (1894); *The Scenery of Switzerland* (1896); *Buds and Stipules* (1898); *The Scenery of England* (1902); *Short History of Coins and Currency* (1902); *Essays and Addresses* (1903); *Free Trade* (1904); *Notes on the Life History of British Flowering Plants* (1905); *On Municipal and National Trading* (1906).

Aveiro, dist. (area, 1,070 sq. m.; pop. 320,000) and tn. (episc. see), prov. Beira, Portugal, at the s.e. corner of the coast lagoon of Aveiro, 40 m. by rail s. of Oporto (pop. 10,000). The people are en-

gaged in fishing (sardines and oysters), and in producing salt.

Avellaneda, GERTRUDIS GOMEZ DE (1816-73), Spanish poetess, who often published under the pen-name of 'Peregrina;' born in Cuba, but lived in Madrid and Seville. Besides *Poesias Liricas* (new ed. 1850), she wrote novels and dramas. Of the former may be mentioned *El Mulato Sab* (1841), *Dos Mujeres* (1842), *Espatolino* (1842), and *Dolores* (1843); of the latter, *Leoncia* (1840), and the Biblical dramas of *Saul* (1849) and *Baltasar* (1849).

Avellino. (1.) Province, Italy, formerly Principato Ulteriore; area, 1,172 sq. m.; pop. 410,000. (2.) Town (episc. see), Italy, cap. of prov., 59 m. by rail E. by N. of Naples; has for centuries been famous for its hazel-nuts. Linen, paper, sausages, and hats are manufactured. The town was founded in the 9th century. The ancient *Abellinum* (now Atripalda) lay 4 m. E. Close to it is the famed church of Monte Vergine, with a wonder-working image of the Virgin, and the tomb of Catherine of Valois. Pop. 24,000.

Ave Maria, or ANGELICA SALUTATIO, a prayer used in the Roman Catholic Church, addressed to the Virgin Mary. It first consisted of the salutation of Mary by the angel Gabriel (Luke 1:28), along with Elisabeth's greeting to Mary (Luke 1:42). The addition, 'Holy Mary, Mother of God, pray for us sinners, now and in the hour of our death,' dates from the 15th century, but was first authorized for daily use in the breviary by Pius V. in 1568.

Avempace, surnamed IBN-SAYEG or IBN-BADJA (d. 1138), Arab philosopher, physician, astronomer, and poet, was born at Saragossa. He is said to have written on Aristotle, on medicine, music, and logic; his great philosophical work, *The Conduct of the Individual*, is known to us only through

its mention by Averrhoes, and notes upon it by Moses of Narbonne. Avempace travelled to Fez, where he is said to have been poisoned by a rival physician.

Avenarius, FERDINAND (1856), German poet and writer on art, was born in Berlin, from which in 1871 he moved to Dresden. *Wandern und Werden*, his first volume of poetry, appeared in 1881 (new ed. 1897); in the following year he compiled an excellent anthology, *Lyrik der Gegenwart seit 1850*. He founded in 1887 *Der Kunstwart*, and wrote the critical work *Max Klingers Griffelkunst* (1894). He has also written volumes of lyrical poetry—*Stimmen und Bilder* (1897; 2nd ed. 1903); *Die Kinder von Wohldorf* (1886; 2nd ed. 1896); *Lebe!* (1893; 4th ed. 1903)—showing great metrical skill and power.

Avenches (Ger. *Wiflisburg*; anc. *Aventicum*), vil., canton Vaud, Switzerland, 7 m. N.E. of Payerne. Its mediæval castle stands on part of the site of *Aventicum Helvetiorum*, formerly occupied by an older Helvetian town mentioned by Tacitus, and ruined in A.D. 69. Pop. 2,000.

Avens, the English name of plants of the genus *Geum*, or their allies. The common avens, which is found in woods and hedges, has erect flowers and sessile heads of fruit. The water avens has drooping flowers with purplish calyces, both varieties having the qualities of cinchona.

Aventine Hill (*Aventinus Mons*), one of the seven hills of ancient Rome, situated on the l. bk. of the Tiber, and s.w. of the Palatine Hill. Ancus Martius colonized it with the inhabitants of the conquered Latin towns. Servius Tullius brought it within the fortified part of the city, and built upon it the celebrated temple of Diana. After 455 B.C. it was the special plebeian quarter of Rome. At the present

time it is almost deserted, being covered with gardens, vineyards, and a few old churches.

Aventinus, JOHANNES (1477-1534), whose proper name was TURMAIR, known as the 'Bavarian Herodotus,' a German historian, studied under Celtes at Ingolstadt in 1495. In 1517 he was appointed historiographer of Bavaria. His *Annales Boiorum* and its German edition appeared after his death, in 1554 and following years. His *Chronica* is the first important work on German history based on a critical examination of the sources. The Bavarian Academy of Sciences issued a complete edition of his writings in 5 vols. (1881-6). See *Lives* by Döllinger (1877) and Wegele (1890).

Average, in law. (1.) General average is the term applied to the rule by which expenses or sacrifices arising on a voyage are recouped by an average contribution from all parties who benefit by such loss or sacrifice. For this purpose the adventure is considered as consisting of three parts—ship, freight, and cargo. Suppose the ship is worth £20,000, the freight (*i.e.* the money being earned by the ship on its voyage) £5,000, and the cargo £10,000. The captain, in order to lighten the ship in a storm, throws overboard £2,000 worth of cargo. This loss will not fall entirely on the owners of the cargo, but, according to the principle of general average, will be divided. The owners of the ship will pay four-sevenths—*i.e.* the proportion of the value of the ship to the value of ship and freight and cargo; the owners of the freight will pay one-seventh; and only the remaining two-sevenths will fall upon the owners of the cargo. Of course the principle is the same if the loss falls on the ship—*e.g.* if the sails are cut away to save the ship; or if it falls on the freight—*e.g.* if the freight is lost by putting into a port to refit.

But in order that there may be a general average contribution, the following conditions are necessary:—(a) The loss must be an intentional one—*e.g.* there is no general average for cargo washed overboard, but only for cargo intentionally jettisoned. (b) It must be for the benefit of all parties—*e.g.* an extraordinary expenditure of coal in order to bring the ship to port in time will not be a general average, for it benefits the freight alone, and not the ship and cargo. (c) It must be incurred under pressure of immediate and unusual necessity. (d) It must not arise from the negligence of the parties—*e.g.* improper stowage or navigation. The loss may take the form either of a sacrifice (*e.g.* jettison of cargo) or of an expenditure (*e.g.* salvage). As a rule, deck cargo, if jettisoned, is not entitled to a general average, because cargo should not be placed on deck; but timber and cattle are perhaps exceptions. The contributions are settled by average adjusters according to certain rules, of which the best known are called the 'York-Antwerp' rules. (2.) Particular average is a misleading term, applied to a loss which falls upon the owner of the particular article lost, and which is not recouped by a general average. See Lowndes on *General Average* (1888).

Average. See STATISTICS.

Averaging, in stock-exchange operations, is a system in use among speculators when the market is going against them. A speculator for a rise purchases more stock, or one for a fall sells more, so that the average cost of the whole would be less or more than that of the first purchase, a relatively smaller movement being then necessary to ensure a profit.

Averments. See INDICTMENT.

Avernus, LAKE, Italy, 10 m. w. of Naples, the crater of an extinct volcano, where the ancients

placed the entrance to the infernal regions. (Cf. 'Facilis descensus Averno,' Virgil's *Æneid*, VI.). Agrippa, at the command of Augustus, connected the lake with the sea, and built a naval port, which existed down to 1538, when the volcanic uprising of Mount Nuovo destroyed it, and completely altered the face of the adjacent country. Lake Avernus is 210 ft. deep, but only a few feet above sea-level, and not more than 2 m. in circumference.

Averrhoës, or **AVERROES**, whose name was **ABUL-IBN-ROSHD** (1126-98), Arab philosopher, was born at Cordova in Spain; acted as judge (from 1169) in Seville and Cordova, and then for many years officiated as court physician to Yakub al-Mansur, Almohade sovereign of Morocco and Cordova. Having an unbounded admiration for Aristotle, whom he regarded as the incarnation of all human wisdom, he was for ages famous as the great commentator of his master, and at Padua his school flourished until nearly the middle of the 17th century. Roger Bacon and John Baconthorpe were the most conspicuous of the English Averrhoists. Averrhoes drew the clearest distinctions between human science (knowledge) and religion, and discriminated sharply between this last and the logic-chopping subtleties of theology. One of the central features of his teaching was the postulation of a universal transcendent intellect which manifests itself eternally in different degrees in individual men. By substituting the conception of the human soul for the intellect in this doctrine, the theological opponents of the Averrhoist school accused Averrhoes of denying the immortality of the soul. The best Latin edition of his commentaries was issued at Venice in 1552 and following years. See J. Müller's *Philosophie und Theologie* (1875); Renan's

Averroës et l'Avérroïsme (3rd ed. 1869); and Mehren's *Etudes sur la Philosophie d'Averrhoës* (1888).

Avers, Alpine valley, canton Grisons, Switzerland, joining the valley of the Hinter-Rhein. The lower portion (Ferrera Glen), between Canicül and Cresta (which stands at an altitude of 6,394 ft.), is one of the highest inhabited places in Europe.

Aversa, tn. and episc. see, prov. Caserta, Italy, 12 m. by rail N. of Naples. In the castle of Aversa, Andreas, king of Hungary, husband of Joanna, queen of Naples, was assassinated by Niccolò Acciajuoli in 1345. Wine is made here; hemp and cotton are woven, and furniture manufactured. The place has been identified by some with the ancient *Atella*. Pop. 23,000.

Avesnes, tn., Nord dep., France, 50 m. S.E. of Lille. Industries include iron-founding, glass-blowing, spinning, and brewing. Pop. 6,000.

Avesta. See **ZEND-AVESTA**.

Aveyron, dep., France, on S.W. slope of central plateau, roughly triangular in outline; area, 3,380 sq. m. Wholly in the basin of the Garonne, the dep. is crossed by its tribs., the Lot, the Aveyron, and the Tarn. The frontier on the N.E. is formed by the Monts d'Aubrac, entirely volcanic in character, and on the S.W. by the ridge of the Cevennes; between these lie lofty chalky plateaus (*causses*), with deep ravines and grassy valleys. The mountains N. of the Lot are granitic. Much of the surface is barren, the agricultural districts being found chiefly in the lower valleys of the Lot and Aveyron (Basse Marche). Forests are still extensive, and round Aubin coal, iron ore, lead, and silver are mined. The natural beauties of the dep. and its mineral springs attract tourists. Pop. 377,000. See Davies's *Our Home in Aveyron* (1890).

Avezzano, tn., Italy, prov. of and 20 m. s. of Aquila; near the Fucino Lake (drained in 1875). Pop. 9,000.

Aviano, tn., Italy, prov. of and 33 m. w. of Udine; near Monte Cavallo. Pop. (comm.) 9,000.

Avianus, FLAVIUS, a Latin fabulist of the 4th century, author of forty-two fables in imitation of Phædrus and Babrius, still extant, set forth in elegiac verse. They made a favourite school-book of the middle ages, and were translated by Caxton (1484). Ed. by Lachmann (1845). See *The Fables of Avianus*, ed. by R. Ellis (1887).

Aviary, a large cage or enclosure for keeping birds. See CAGE BIRDS.

Aviation. See AERONAUTICS and AEROPLANES.

Avicbron, or SALOMON-IBN-GABIROL (1020-70), Jewish poet and philosopher, born at Malaga in Spain. He is the author of the philosophical work *Fons Vitæ*, or *Fons Sapientiæ*, written in Arabic, which had a great influence on the scholastic writers of the middle ages. His teaching was compounded of Jewish theology, Aristotelianism, and Neo-Platonism. His writings exercised also a great influence upon the development of the Cabbala. He composed numerous poems and hymns, several of which now form part of the synagogue prayer-book. See Kaufmann's *Studien über S. Ibn Gabirol* (1899); Geiger's *S. Gabirol und seine Gedichte* (1867); Munk's *Mélange de Philosophie Juive et Arabe* (1857).

Avicenna, or IBN-SINA (980-1037), Arabian philosopher and physician, born near Bokhara; died at Hamadan, in Persia. For some years he led an unsettled life, living, among other places, at Rai, near Teheran; then he found his way to Hamadan, where for a time he occupied the position of grand-vizier to the ruling chief; and finally settled in Ispahan.

His principal work is the *Canon of Medicine*, written in Arabic, early translated into Latin, and for centuries (to the middle of the 17th century in some) a leading text-book in European universities. This is based upon Galen —*i.e.* ultimately upon Hippocrates and Aristotle. In philosophy his most important work was *Ash-Shafa*, an encyclopædia of the philosophical sciences, of which an extract, *Al-Nadjat*, contains his logic, metaphysics, and physics. His philosophical doctrine is mainly Aristotelian, adapted in many parts to the religious faith of the Koran. His works, which were translated into Latin in the 12th century, appeared in 1493 in Venice, and afterwards in numerous editions. See Munk's *Mélanges de Philosophie Juive et Arabe* (1857), Mehren's *Traité Mystiques d'Avicenne* (1889-99), and Carra de Vaux's *Avicenne* (1900).

Avicennia, or WHITE MANGROVE, a genus of Verbenaceæ, evergreen trees and shrubs indigenous to the tidal estuaries and salt marshes of most tropical countries. The astringent bark of the *A. tomentosa* is much used in Rio Janeiro for tanning; in New South Wales the wood, being hard and durable, is used for mallets, etc.

Avienus, RUFUS FESTUS, a Latin poet who wrote on geographical and astronomical subjects in the 4th century A.D. To him are ascribed (1) *Descriptio Orbis Terræ*; (2) *Ora Maritima*, a description of the coast of the Mediterranean from Marseilles to Cadiz; (3) *Aratea Phænomena* and *Aratea Prognostica*, free translations from the Greek author Aratus. See Wernsdorf's *Poetæ Latini Minores*, vol. v., or Holder's ed. (1886).

Avigliano, tn., prov. Potenza, Italy; is built on a hill (3,010 ft.) 8 m. n.w. of Potenza; it manufactures explosives. Pop. (tn.) 13,000; (comm.) 20,000.