

**Avignon** (Lat. *Avenio*), tn., cap. of dep. Vaucluse, France, on l. bk. of Rhone, 143 m. below Lyons and 25 m. above the apex of the delta. The city is the seat of an archbishop. The citadel-like palace of the popes, built 1336-70, with six towers and walls 18 ft. thick, is the chief object of interest. The metropolitan church, Notre Dame des Doms (12th century), perched on a rock (280 ft.), between which and the river is the well-known Promenade des Rocher des Doms, and a multitude of other ecclesiastical structures, are interesting (*la ville sonnante* of Rabelais). A continuous belt of walls (1349-68) encircles the city. Villeneuve, on the r. bk. of the river, is connected with Avignon by the famous bridge built in 1108, and partly destroyed in 1669. The only industries of note are those of silk, copper, zinc, and lead. The Popes regularly resided in Avignon from 1309 to 1378, and at intervals up to 1417, the town and surrounding district remaining a papal possession until 1791. Petrarch first saw Laura in Avignon, and she was buried in the church of the Cordeliers, now destroyed. In 1873 John Stuart Mill died here. Pop. 50,000. See Joudon's *Avignon: son Histoire, ses Papes, ses Monuments, et ses Environs* (1842); and Digonnet's *Le Palais des Papes d'Avignon* (1908).

**Avila** (anc. *Abula*), city of Spain, cap. of prov. of same name, 70 m. N.W. of Madrid, on main N. Ry., ancient and picturesque decaying city on the lower slopes of the Guadarramas. The Moorish walls and towers stand almost intact. Avila was the birthplace of Santa Teresa (1515-82). Pop. 12,000. The province (part of Old Castile) is relatively poor agriculturally, but produces timber, chestnuts, and olives; its rich mines of coal, copper, and lead are little worked. Area, 3,040 sq. m.; pop. 200,000.

**Avila**, JUAN DE (1500-69), the 'apostle of Andalusia,' born in La Mancha; passed twenty years as a priest. He belonged to the Spanish mystic school, and left a number of works published by Ruiz de Mesa in *Vida y Obras de Juan de Avila* (1618).

**Avila**, SANCHO DE, a Spanish general who served under the Duke of Alva and under Requesens in the Netherlands. He defeated Louis of Nassau, and sacked Antwerp in 1576, but was killed at the siege of Maestricht in 1579. See Brantôme's *Vies des Grands Capitaines* (1665).

**Avila y Zuniga**, LUIZ DE (c. 1490-1560), Spanish historian and diplomatist, favourite of Charles v. His account of the emperor's war with the Protestant princes, *Comentarios de la Guerra de Alemaña* (1548; new ed. 1852), has been translated into several languages.

**Aviles**, or SAN NICOLAS DE AVILES, tn., prov. Oviedo, Spain, 15 m. N. by W. Oviedo, on ry. to Gijon. Port on Bay of Biscay. Several foundries and textile factories. Pop. 13,000.

**Avion**, comm., Pas de Calais dep., France, 8 m. N. by E. of Arras. Pop. 9,400.

**Avison**, CHARLES (?1710-70), English musician, of Newcastle; is known by his *Essay on Musical Expression*, by several sets of sonatas and concertos, and by his edition, in eight volumes, of Marcello's Psalms. See Hawkins's *Hist. of Music* (1776) and Browning's *Parleyings with Certain People* (1887).

**Avispoort**, an opening in the mountains in Damara Land, German S.W. Africa, close to Little and Great Windhoek.

**Avitus**, MARCUS MÆCILIUS (d. 456 A.D.), emperor of the West (455-456 A.D.), was a descendant of a noble family of Auvergne. As prefect of Gaul he defeated the Huns and Vandals. He became



ambassador at the court of Theodoric, king of the Visigoths, with whose assistance he ascended the throne at the death of Maximus (455). After a reign of fourteen months he was deposed by Ricimer, and appointed bishop of Placentia.

**Aviz**, ORDER OF ST. BENEDICT, a Portuguese military and religious order founded in 1162 to oppose the Moors, the knights being under the Cistercian and Benedictine discipline. In 1211-23 King Alfonso removed the order to the fortress of Aviz, whence the name. It is now (since 1879) simply a military order, with three classes—grand cross, commander, and chevalier. See Lawrence-Archer's *Orders of Chivalry*.

**Avizandum**. In Scotland, when a court takes time to consider before deciding a case, it is said to take the case *ad avizandum*; in England, the court is said to reserve judgment.

**Avlona** (Ital. *Valona*), tn. and seapt., Turkey in Europe, vilayet Janina, on the bay of the same name, Adriatic, 58 m. s. of Durazzo. Until 1691 it was under the suzerainty of Venice. It is an archiepiscopal see of the Orthodox Greek Church. Pop. over 6,000.

**Avoca**, or OVOCA, short riv., Co. Wicklow, Ireland, formed by the sub-tribs. Avonmore and Avonbeg at 'the meeting of the waters,' and famed for its silvan scenery and for Thomas Moore's well-known lines (*Irish Melodies*, 1779).

**Avocado Pear**. See ALLIGATOR PEAR.

**Avocets**, widely-distributed birds belonging to the genus *Recurvirostra*, of which one, *R. avocetta*, bred in England till 1824. The avocets are limicoline birds, allied to the plovers and sandpipers, and are characterized by their curious curved beak.

**Avogadro**, AMADEO DI QUAREGNA E CERETTO, COMTE (1776-1856), professor of physics at

Vercelli (1809), of mathematics at Turin (1820), discovered 'Avogadro's law'—that equal volumes of different gases, at the same temperature and pressure, contain the same number of molecules.

**Avoirdupois**. See WEIGHTS AND MEASURES.

**Avola**, tn., prov. Syracuse, Sicily, 22 m. by rail s.w. of Syracuse; produces wine, almonds, and sugar. It dates from 1693, when an earthquake destroyed the ancient town. Pop. 16,500.

**Avon**, Celtic word meaning 'river;' a common name for British streams, of which the following are the most important:—(1.) Upper or Warwickshire Avon, rising near Naseby, Northamptonshire, and flowing through Warwickshire and Worcestershire to join the Severn on the l. bk. at Tewkesbury, passing Stratford, hence Shakespeare's designation 'Swan of Avon.' Its length is nearly 100 m. (2.) Lower Avon, or Bristol Avon, entering the Bristol Channel 6 m. below Bristol: length, 70 m. It is subject to very high spring tides, which sometimes rise above 40 ft. (3.) East Avon, in Wiltshire, flowing through Salisbury; length, 50 m. (4.) A trib. of Spey, Banffshire, Scotland, 30 m. long. (5.) Trib. of Clyde, Lanarkshire, Scotland, 28 m. long.

**Avondale**, par., 9½ m. s.w. of Hamilton, W. Lanarkshire, Scotland, with the battlefield of Drumclog (1679), immortalized in Scott's *Old Mortality*. Pop. 6,000.

**Avonmouth**, tn. and docks at mouth of river Avon, Gloucestershire, England, 6 m. n.w. of Bristol.

**Avranches**, tn., dep. Manche, France, on St. Michel's Bay, 67 m. s. of Cherbourg. Candles, lace, nails, bell foundry, copper-smiths, tanneries; cider, butter, salt, cattle. It was a bishopric from 6th century till 1791; and in English possession from 1421 till 1450. It suffered at the hands of



Protestants in 1562, and again in 1639 during a revolt of the peasants. Pop. 7,400. See Le Héricher's *Avranchin monumental et historique* (1845-6).

**Awaji**, island of Japan, at the eastern entrance of the Inland Sea, two hours by steamer from Kobe. Its area is 218 sq. m., and pop. some 170,000. Its scenery is very beautiful, and the island is much visited by tourists.

**Award.** See ARBITRATION.

**Awe.** (1.) River of Argyllshire, Scotland, flowing N.W. from loch of same name into Loch Etive; a famous salmon and sea-trout stream with rugged and precipitous banks, especially in the Pass of Brander. (2.) Loch of Argyllshire, Scotland, 22 m. E. of Oban, 118 ft. above sea-level, and 22½ m. long. Ben Cruachan looks down on the island-studded N. end, and on the N.E. shore is Kilchurn Castle (built 1441), mentioned in *The Macgregors' Gathering*.

**Awl-wort** (*Subularia aquatica*), a plant of the order Cruciferae, found in shallow water or in wet places. Roots numerous and fibrous; leaves like awls—short and narrow; flowers inconspicuous.

**Awn**, a bristle-like growth, called also *beard*, which arises from the backs or apices of the outer flowering glumes of many species of grasses and cereals; a prolongation of the midrib.

**Awomori**, or AOMORI, tn. and seapt., Japan, with a fine natural harbour, at N. extremity of Nippon, 444 m. by rail N. of Tokyo. Timber, fruit, and vegetables are exported. The port was opened for foreign trade in 1906. Pop. 50,000.

**Ax**, or AX-LES-THERMES, tn., dep. Ariège, France, on Ariège R., 25 m. S.E. of Foix, at 2,350 ft. altitude; famous for its warm sulphur springs, sixty-one in number (63-171° F.). Pop. 1,500.

**Axe** (spelt *ax* in the Bible), an instrument used for hewing and

chopping wood; formerly also a weapon of war. (See BATTLE-AXE.) It was in the earlier ages made of flint or bronze, but is now made of iron with a cutting edge of steel. The head is pierced to allow entrance to the end of the handle, haft, or helve. The cutting edge is in the same plane as the handle, and not, as in the adze, at right angles to it.

**Axenbergl**, a rocky precipice (3,670 ft.), with a sheer descent to the E. shore of the S. arm of Lake Lucerne, Switzerland, between Brunnen and Flüelen. These tns. are connected by a noted carriage way, the AXENSTRASSE (7½ m. long), cut out of the solid rock and completed in 1866. At the base of the mt. is the ledge of rock—the TELL'S PLATTE—on which is Tell's Chapel.

**Axestone**, a hard variety of mineral, jade or nephrite, of a greenish colour; so called from its use by the Maoris and the South Sea islanders for axe-heads. It is found in Cornwall, also in Silesia, Central Asia, and China.

**Axholme**, or AXHOLM, ISLE OF, a dist. in Lincolnshire, insulated by the Trent, Don, Idle, and Torne; about 17 m. long by 9 m. broad. Epworth and Crowle are the principal places in it. The practice of 'warping'—i.e. of inundating the land at certain times with mud-laden water—is still pursued. It was drained and reclaimed by Vermuyden (1625-34). See Peck's *Isle of Axholme* (1815).

**Axil**, the upper angle between a leaf and the stem from which the leaf arises. It is the normal position for the origin of lateral buds, which are therefore termed axillary. The old term was *ala*.

**Axilla** (Lat. 'armpit') is, strictly speaking, the armpit, or any other part of the body which forms a similar angle; but for practical purposes axilla is applied to the armpit only. It is the pyramidal space which lies



between the inner side of the upper arm, or arm proper, and the adjacent part of the chest wall. The apex of this pyramid points upwards and inwards toward the root of the neck. The large nerves and vessels for the arm pass through the axilla, and the glands there are a common seat of abscesses and other troubles.

**Axinomancy**, an ancient Greek ordeal for the discovery of crime. See DIVINATION.

**Axiom**, a proposition or premise which, being self-evident, requires no proof, and is taken for granted. As a technical term the word 'axiom' is now restricted to the self-evident premises of geometry, the corresponding term in philosophy being intuition.

**Axis**, in general, an imaginary line about which any solid body rotates, or about which any geometrical figure or organic structure is symmetrical. Thus, we speak of the *axis* of a planet, running through the sphere from pole to pole; and in scientific instruments, machinery, etc., the axis is represented by a pin, bearing, axle, or other element, about which, as the centre of its rotation, a part is free to move. And again, we speak of the axis of an ellipse, parabola, cone, etc.; and the stem of a plant, about which the leaves, branches, etc., are disposed in a radially symmetrical manner, is termed the axis. In human osteology the name is applied to the second cervical vertebra, which supports the atlas, or highest bone in the vertebral column.

**Axis Deer**, an Indian form remarkable for its coloration, the body being profusely spotted with white on a dark background. It is about the size of the European fallow deer; the male has slender, sharp-pointed horns, little branched. It has been kept in parks both in England and on the Continent.

**Axite**, a smokeless powder made of nitro-glycerine and nitro-cellulose. It resembles cordite, and is manufactured in ribbons, with double bevelled edges when intended for big guns. It is claimed to be superior to cordite in having a less corrosive effect on the barrel, in giving increased velocity and greater accuracy, and in evolving a lower temperature.

**Axminster**, mrkt. tn., Devon, England, 27 m. w. of Dorchester, on the Axe. The town is pleasantly situated on the slope of a hill, and has an ancient church. It was once famous for the manufacture of carpets, but it is now largely dependent on its brush factories; there are also corn, flour, and saw mills and iron-founding. The first Duke of Marlborough was born at Ashe near by. About 1 m. to the s. are remains of Newenham Abbey, a Cistercian foundation of the 13th century. Pop. 3,000.

**Axolotl** (*Amblystoma*, or *Siredon pisciformis*) is a Mexican and N. American amphibian, not infrequently kept in captivity in aquaria. It resembles a newt in shape, and has a powerful tail, two pairs of weak limbs, and three pairs of simple external gills. In this form it breeds freely, both under natural conditions and in aquaria, the young resembling their parents. Under certain conditions, as yet not fully understood, this gilled stage may be converted into another form (*Amblystoma*), in which the gills and the membrane of the tail are lost; these forms also reproduce, but their young are axolotls, and are not like their parents. These facts justify us in regarding the axolotl as a prematurely sexual larva, and the gill-less form as the adult.

**Axum**, AXOUM, or AKSUM, tn., cap. of prov. Tigré, Abyssinia, 113 m. s.w. of Massowah; formerly the capital of a powerful Ethio-



pian kingdom. (See ETHIOPIA.) Axum has been Christian since the 4th century, and is now regarded as a sacred city by the Abyssinians. There are numerous remains of Greek architecture. Pop. 5,000. See Bent's *The Sacred City of the Ethiopians* (1893).

**Ay**, tn., Marne dep., France, 15 m. s. of Rheims, noted for its champagne. Pop. 7,400.

**Ayacucho**, tn., Peru, cap. of dep. of same name, in lat. 13° 8' s. In 1539 Pizarro founded the town of San Juan de la Victoria on the site of the Indian Huamanga (Falcon Rock); and after the victory of General Sucre over the Spaniards (Dec. 9, 1824) the independence of Peru was secured, and the name of the town was changed to Ayacucho. Ayacucho contains a cathedral and several monasteries. Alt. 9,260 ft. Pop. 20,000.

**Ayala**, PEDRO LOPEZ DE (1332-1407), Spanish poet and historian. A noble of the court of Peter the Cruel, he fought for Henry of Trastamare at the battle of Nájera (1367). He afterwards occupied the positions of councillor to Henry II. and high chancellor to John I. His great work is the *Cronicas de los Reyes de Castilla, 1350-96*, a vivacious and brilliant work (best ed. 1780). He also translated Livy into Spanish.

**Ayamonte**, seaport tn., Huelva prov., Spain, near mouth of the Guadiana. Pop. 7,500.

**Aye-aye** (*Chiromys madagascariensis*), a remarkable animal now placed among the lemurs in the mammalian order Primates, though it was once regarded as a rodent. It is entirely nocturnal in its habits, and is confined to Madagascar, where it inhabits the dense forests. A notable peculiarity is the structure of the front teeth, which are large, curved, and chisel-edged like those of a rodent. The hands are also very remarkable, the middle finger

being exceedingly long and very slender; it is said to be used in picking out wood-boring insect larvæ. The aye-aye is about as large as a cat, and has large naked ears.

**Ayenbite of Inwyt**, THE ('Remorse of Conscience'), a translation (1340) of Loren's *Le Somme des Vices et des Vertus* (1279) by Dan Michel, an Augustinian monk of Canterbury. It is the best example of Kentish southern English, and is supposed to have been used by Chaucer for *The Persones Tale*. See editions by Morris (Early Eng. Text Soc., 1866), and A. J. Wyatt (1889).

**Ayesha**, wife of Mohammed. On his death (632) she secured the caliphate for her father, Abu-Bekr, against the prophet's son-in-law, Ali; and again, at the Caliph Othman's death, she tried to exclude Ali, but was taken prisoner (656). She died at Medina (677). See MOHAMMED.

**Aylesbury**, mrkt. and co. tn., Buckinghamshire, England, near the Thame; an important railway centre, situated on high ground, overlooking the fertile vale to which it gives name. Some of the interesting public buildings are due to the Rothschild family. Outside the town, on the N.E., is a female convict prison. Large printing works; other industries, straw-plaiting and lace-making. Dairy-farming and the rearing of ducks are extensively followed in the district. During the civil war the so-called battle of Aylesbury was fought (1642) at Holman's Bridge, near the town. John Wilkes represented the borough in the Parliaments of 1757 and 1761. Pop. 9,300.

**Aylesford** (anc. *Ailesforde, Eyllesforde*), tn. and par., Kent, England, 3 m. N.N.W. of Maidstone, on the Medway, here crossed by an ancient bridge. In 455 a battle was fought in this neighbourhood between the Britons



and Saxons, when Horsa, the Saxon leader, was slain; in 893 the Danes were defeated by Alfred, and in 1016 by Edmund Ironsides. Kits Coity House, a remarkable cromlech, 'The Countless Stones,' an entrenchment on Blue Bell Hill, and certain upright stones at Horsted, are all interesting remains. Pop. 2,700. See *Archæologia*, ii. 107-117, iv. 110-116, xi. 38-44.

**Aylesworth, ALLEN BRISTOL** (1854), Canadian politician, was born at Newburgh, W. Canada, and called to the bar in 1878. On the death of Mr. Justice Armour (1903) he was commissioned as one of the Canadian members of the Alaska Tribunal. In 1904 he obtained a seat in the Dominion parliament, and became post-master-general. In 1906 he became minister of justice for the Dominion.

**Ayliffe, JOHN** (1676-1723), an eminent Whig jurist, was expelled from Oxford University because of personal attacks in his *Ancient and Present State of the University of Oxford* (1714), and was defended in *The Case of Dr. Ayliffe at Oxford*, probably (*Gent. Mag.*, lxxiv. 646) written by himself. He wrote *Parergon Juris Canonici Anglicani* (1726), a learned work, still authoritative; *The Law of Pledges* (1732), an inquiry into the methods of pawnbrokers 'and their accomplices in iniquity;' and *A New Pandect of Roman Civil Law* (1734). See G. B. Macdonell, in *Dict. Nat. Biog.*, ii. 279.

**Aylmer, JOHN** (1521-94), tutor to Lady Jane Grey, was appointed archdeacon of Stow (1553), but was expelled for his disbelief in transubstantiation; took refuge in Strassburg, and later in Zürich, where he acted as tutor, and helped John Fox in the translation of *Acts and Monuments* into Latin. When Elizabeth came to the throne he returned to England, and became archdeacon of

Lincoln (1562), and then bishop of London (1577), where he was very unpopular. His reply to Knox's *Monstrous Regiment of Women*, entitled *An Harborowe for faithful and trewe Subjects*, etc. (1559), is the best known of his works. He is said to have been the original of Spenser's Morrell, 'the proude and ambitious pastoure' of the *Shepherd's Calendar*.

**Aylmer, MATTHEW, LORD AYLMEER** (1643-1720), British admiral. In the actions off Beachy Head (1690) and Cape Barfleur (1692) he commanded the *Royal Catherine*. In 1709 he became admiral of the fleet, and in 1714 governor of Greenwich Hospital.

**Ayloff, SIR JOSEPH** (1709-81), English antiquary, appointed one of the keepers of state papers in 1763. He was vice-president of the Society of Antiquaries, whose charter of incorporation he took a prominent part in procuring. His chief work is *Calendars of the Antient Charters* (1772). He edited Leland's *Collectanea* (6 vols. 1771). See Thomson's *Hist. of the Roy. Soc.*

**Aymararas**, a numerous and formerly powerful S. American people whose territory lay chiefly on the Bolivian plateau round Lake Titicaca, and thence south to and beyond Lake Aullagas. The Aymararas, whose proper name is Colla, appear to represent the primitive stock from which sprang the Quichuas—i.e. the dominant people of the Peruvian empire. The two languages are related as mother and daughter. The Aymararas are generally undersized and ungainly, with short, thick-set, robust figures, arched nose, small extremities, coppery skin, highly brachycephalic (round) head, and a sullen even churlish disposition. Their civilization was antecedent to that of the Incas, but was in some respects more highly developed, judging at least from the stupendous monuments of



Tiahuanaco at the south end of Lake Titicaca. These surprising megalithic structures, rivalling those of Egypt and Baalbec in massiveness, were never completed, the works having been arrested by the Inca, Mayna Capac, about 1140 A.D., when the Quichuas overthrew the rival Aymara kingdom, and adopted much of their culture, religion, and traditions. All are now nominal Catholics. In 1900, Aymaras of pure stock were estimated at about 500,000, and the Hispano-Aymara half-breeds at 100,000.

**Aymer de Valence**, EARL OF PEMBROKE (d. 1324), was the son of a half-brother of Henry III. In 1306 he became guardian of Scotland, defeated Bruce at Methven, but was defeated by Bruce at Loudon Hill. He sided with Lancaster against the court, but was afterwards reconciled to the king. He was appointed lieutenant of Scotland in 1314, and fought at Bannockburn.

**Aymestry Limestone**, a dark-gray impure limestone, not over 40 ft. thick, consisting chiefly of shells and corals, and named after the village in Herefordshire where it has long been quarried. It belongs to the Ludlow rocks of the Upper Silurian, and occurs also near Ludlow and Ledbury.

**Aymon**, or HAIMON, of Dordogne, the father of four sons—Renaud, Guiscard, Alard, and Richard—whose adventures form one of the most popular romances of the middle ages, attributed to Huon de Villeneuve (13th century). Renaud, or Regnault, the owner of the famous steed Bayard, makes successful war against Charlemagne. The brothers appear in the works of Tasso, Boiardo, and notably in the character of Rinaldo in Ariosto's *Orlando*. See Ferrario's *Storia degli Antichi Romanzi* (1828-9); Caxton's *Four Sonnes of Aymon* (?1489), English trans. by O. Richardson (1884).

**Ayr**, cap. of Ayrshire, Scotland, and a roy. bur., situated on river Ayr, 33 m. s.s.w. of Paisley, on the G. & S.W.R. A temporary barrack, known as the Barns of Ayr, was (1297) the scene of Wallace's tragical exploit. The old church of St. John was the meeting-place of the parliament of Bruce in 1315, which assigned the succession to his brother Edward. The Wallace Tower, 113 ft. high, was erected in 1834. There is a statue to Robert Burns (1891). The 'Twa Brigs' of Burns's poem stand within 500 yds. of each other. One of them, the 'Auld Brig,' was recently restored by public subscription. The town hall was rebuilt (1901-2). There is an excellent academy, founded 1760. The Carnegie Library was erected in 1893; Ayr County Hospital in 1883. The harbour has a patent slip dock 800 ft. long; depth of water in the basins, 19 ft. to 23 ft. The industries are shipbuilding, carpet, lace, woollen, chemical manufacturing, and shoemaking. Along with Campbeltown, Irvine, Inveraray, and Oban, it unites in sending one member to Parliament. Pop. 30,000.

**Ayrshire**, a maritime co. in the s.w. of Scotland, bounded on the w. by the Firth of Clyde; area, 1,142 sq. m.; its greatest breadth is 28 m., and its length 78 m. The Irvine and some smaller streams water the n. portion; the Doon, Stinchar, Girvan, and Ayr, with Lugar, traverse the county and fall into the Firth of Clyde. The principal heights are Shalloch on Minnoch (2,520 ft.), and Kirrireoch Hill (2,562 ft.). The soils may be divided into three kinds—mossy and moorish, sandy, and clayey. Agriculturally rich, Ayrshire does a large export trade. The Ayrshire cows yield milk rich in butter-making qualities. The renowned 'Dunlop' cheese has been somewhat superseded



by the Cheddar, which is largely made. Early potatoes are extensively grown. The principal town is Ayr; the seaports, in addition to Ayr and Ardrossan, being Girvan, Irvine, Largs, Saltcoats, and Troon. There are woollen and steam-engine factories, foundries, tanneries, chemical and dynamite works, shoe, carpet, lace, and bonnet making, and extensive coal-mining. Ruins of ancient castles exist at Dundonald, Sorn, Turnberry, and Loch Doon. Alexander III., by his victory at Largs (1263), dealt the deathblow to Norwegian supremacy over the Western Highlands and Islands. Edward I. of England was defeated by Wallace and by Bruce at Ayr, Turnberry, and Loudon Hill. Pop. 255,000. See James Paterson's *Hist. of the County of Ayr* (1847-52); *Ayr Archæol. and Hist. Collections* (1878-79); A. Millar's *Castles and Mansions of Ayrshire* (1885); Dougall's *The Burns Country* (1904); and Harvey's *Picturesque Ayrshire* (1905).

**Ayrer, JACOB** (d. 1605), a German dramatic poet, and a notary at Nuremberg, whose *Opus Theatricum* was published in 1618. In his early works he follows Hans Sachs, but frequently models upon Shakespeare, or uses the same sources. A new edition of his *Opus Theatricum*, in 5 vols., edited by Keller, was published at Stuttgart in 1865. See Robertson's *Zur Kritik J. Ayrers* (1892).

**Ayres, JOHN** (c. 1680-1700), calligraphist, famous as the introducer of the Italian hand into Britain. He wrote a *Treatise on Penmanship* (1697). See More's *First Invention of Writing* (1716).

**Ayrton, EDMUND** (1734-1808), English musical composer, was born at Ripon, son of a barber-surgeon. A pupil of Dr. Nares, he succeeded him as master of the children of the Chapel Royal (1780-1805). He was also vicar-choral

of St. Paul's Cathedral, a Mus. Doc. (Cam. 1784), and the author of church services and anthems. See the *Harmonicon* (1833).

**Ayrton, WILLIAM** (1777-1858), English impresario and writer, was the first to introduce *Don Giovanni* (King's Theatre, 1817); edited the *Harmonicon* for ten years from 1823, and published *Sacred Minstrelsy* (1834-5) and the *Musical Library*.

**Ayton, SIR ROBERT** (1570-1638), Scottish poet, was born at Kindie, Fifeshire; travelled in France, and was successively gentleman of the king's bed-chamber, secretary to the queen, and master of requests. His poems have been edited by Sir Charles Rogers (1871; 2nd ed. 1884). The two songs, 'I do confess thou'rt smooth and fair,' and the early 'Auld Lang Syne,' printed in Watson's *Collection* (1707), have been attributed to Ayton, on questionable grounds. See Memoir prefixed to edition of 1871.

**Aytoun, WILLIAM EDMONDS-TOUNE** (1813-65), Scottish poet, was born in Edinburgh. In 1845 he became professor of rhetoric in the university there. He married a daughter of Professor Wilson (Christopher North) in 1849, and in 1852 was appointed sheriff of Orkney and Shetland. He died at Blackhills, near Elgin. Aytoun, who was a staunch Jacobite, is best known for his *Lays of the Scottish Cavaliers* (1848) and the *Bon Gaultier Ballads* (1855), the latter written in conjunction with Sir Theodore Martin. His tragedy, *Firmilian* (1854), was written as a parody of the 'spasmodic' school of poetry, represented by Sydney Dobell and Alexander Smith. His other works include *Poland, Homer, and other Poems* (1830); *Bothwell*, a poem (1856); a collection of the *Ballads of Scotland* (1858); a translation of *Poems and Ballads of Goethe*, in conjunction with Sir Theodore Martin (1858);



*Norman Sinclair*, a novel (1861). See *Life of Aytoun* (1867), by Sir Theodore Martin; *Pollok and Aytoun* (Famous Scots Series), by Rosaline Masson (1898).

**Ayuntamiento**, the Spanish town council, of which the *alcalde* is chairman. Instituted in Roman times, the *alcaldes* acquired great political and municipal authority, which they gradually lost under the Bourbons, but from 1812 to 1843 were partially restored. In 1870 the *alcaldes* were deprived of their political powers, and confined to the ordinary municipal administration.

**Ayuthia**, tn., Siam, built principally on piles, on the l. bk. of the Menam, 42 m. by rail N. of Bangkok, was the first capital (from 1350 to 1767) of the present Siamese people. It was taken by the Burmese in 1767, after a two years' siege. Pop. about 50,000.

**Azalea**, a genus of the order Ericaceæ, differing from the rhododendron in having only five stamens. The hardy azaleas are all deciduous, and came from N. America and S. Europe. The American kinds are often called Ghent azaleas, from the place where their varieties were first cultivated. The British species is *A. procumbens*, found in patches on Scottish moors.

**Azamgarh**, tn., cap. of dist. of the same name, United Provinces, India, 52 m. N.E. of Benares. Pop. of tn. 20,000; of dist. 1,500,000.

**Azan**, the Moslem call to prayer, chanted or recited five times daily by the muezzin, with his face towards Mecca, generally from the turret of the mosque designed for this purpose.

**Azandeh**, or ZANDY. See NIAM-NIAM.

**Azara**, FELIX DE (1746-1811), naturalist and traveller in Paraguay (1781-1801), wrote the *Voyage dans l'Amérique Méridionale*, 4 vols. and atlas (1809), and *Nat.*

*Hist. of Paraguay* (1802; Eng. trans. 1838).

**Azariah**. See UZZIAH.

**Azazel**, formerly supposed to designate the goat chosen to carry away the sins of the Israelites on the Day of Atonement (hence rendered 'scapegoat' in A.V.; see Lev. 16:7 f.), but now universally taken as the name of a desert-spirit or fallen angel, for whom the goat was destined. Cf. the bird liberated for leprosy (Lev. 14:6 f.), and, for analogies, Frazer's *Golden Bough*, ii. 18 f. (2nd ed. 1900).

**Azeglio**, MASSIMO TAPARELLI, MARCHESE D' (1798-1866), Italian statesman, artist, and author, came of a noble Piedmontese family. At fifteen years of age he went to Rome with his father, who was ambassador at the papal court. There he studied art and music, excelling as a landscape painter. When his father died, in 1830, Azeglio went to Milan, where he met Manzoni, whose daughter he married. Turning to literature, he produced two novels, *Ettore Fieramosca* (1833) and *Niccolò de' Lapi* (1841), which roused much enthusiasm among the patriotic party. He now traversed the country, stirring up the fires of patriotism, but discountenancing the extreme propaganda of Mazzini. In 1846 he wrote a pamphlet entitled *Degli Ultimi Casi di Romagna* ('On the Recent Events in the Romagna'), in which he satirized the papal government, and demonstrated to the Italian princes the necessity of a national policy. Two years later he joined the patriotic army against Austria, and was severely wounded at the battle of Vicenza (1848). When Victor Emmanuel II. ascended the throne, he appointed Azeglio president of the council and minister of foreign affairs; but in 1852 he resigned, making way for Cavour. In July 1859 Azeglio was sent to the



Roman states as military commissioner. His political correspondence and autobiography were published after his death, under the title of *I miei Ricordi* (15th ed. 1895). See *Lives* by Pavesio (1871) and Bianchi (1884); *Italy, 1815-90*, by J. W. Probyn (1891).

**Azerbaijan**, or ADERBAIJAN (over 40,000 sq. m.), a fertile and mountainous province in N.W. Persia, and encroaching on Armenia towards Mt. Ararat (16,916 ft.). Mt. Savalan (15,820 ft.) lies towards the E.; Lake Urumiah lies in the W.; and the river Aras (Araxes) forms the N. boundary, its tributary, the Kara-Su, being the only other important stream. Wheat, maize, cotton, hemp, and tobacco are grown in considerable quantities. Carpets and fruit are the chief exports. The chief towns are Tabriz (the cap.), Urumiah, Khoi, Ardebil, and Maragha. Pop. estimated at about 1,500,000.

**Azevedo**, MANOEL ANTONIO ALVARES DE (1831-52), Brazilian poet; wrote, in the temper of Heine and Byron, *Lyra dos Vinte Annos* (1851; 5th ed. 1884), which show undeniable genius.

**Azimuth** is the angular distance of a celestial object from the N. or S. point of the horizon, or the angle comprised between the meridian and a vertical plane passing through the object. In the N. hemisphere it is usually reckoned from the S. point of the horizon through the W. from 0° to 360°. See ALTAZIMUTH.

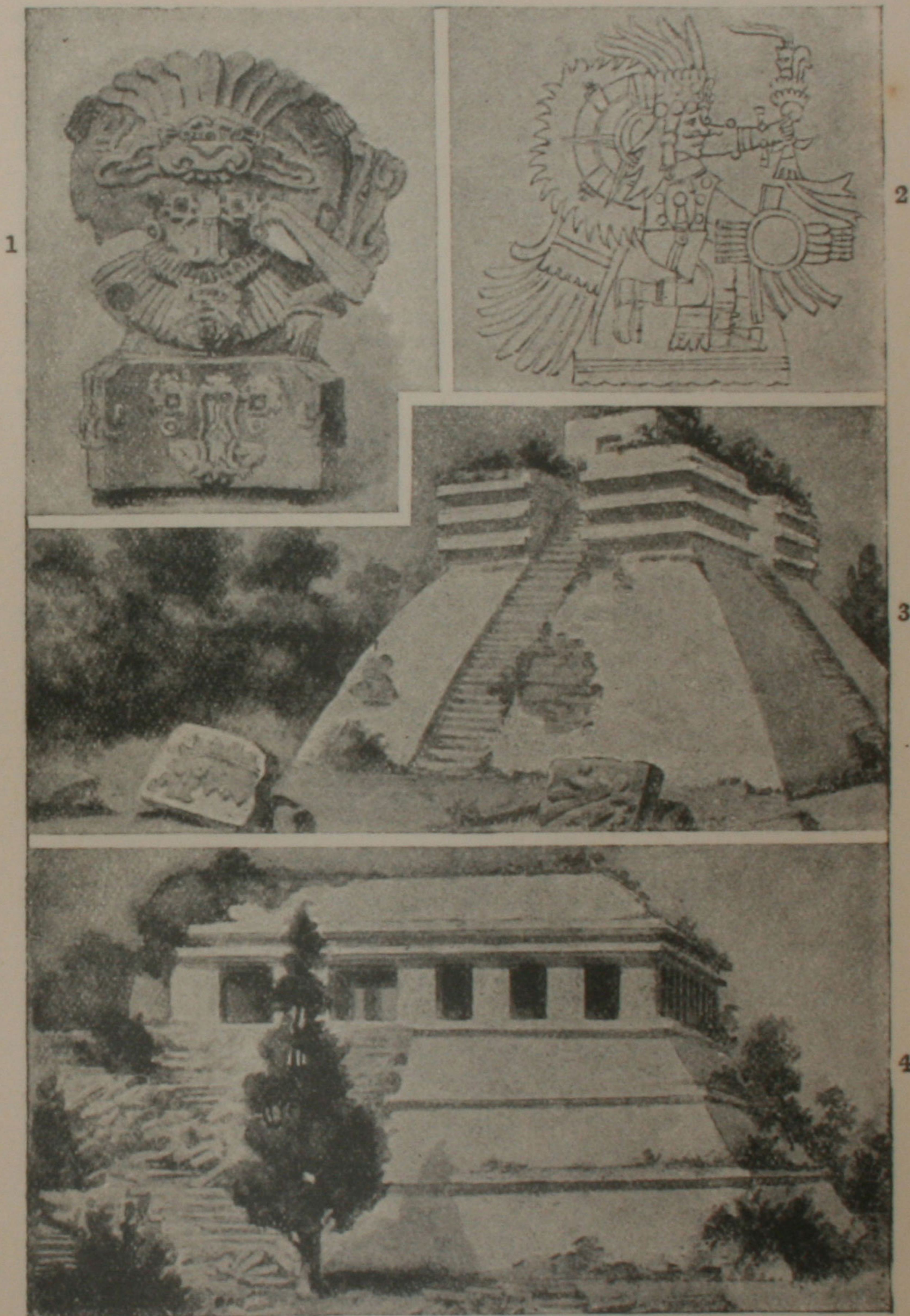
**Azincourt**. See AGINCOURT.

**Azo-Compounds** contain one or more—N=N—groups connecting aromatic radicals of various kinds. They are prepared by complex processes, and in many cases—such as that of 'Bismarck brown,' 'chrysoidin,' 'Biebrich scarlet,' etc.—are of value as dyes, the —N=N—, or 'azo' group conferring colour.

**Azoic**, a term applied to the earliest geological formations, as from them no fossils or other evidence of the existence of living creatures has been obtained. It is now discarded in favour of Precambrian or Archæan.

**Azores** (in Portuguese, *Açores* = 'Hawk Islands'), a group of islands in the Atlantic, 930 m. W. of the coast of Portugal, of which country they are not colonies, but a constituent part. They are of volcanic origin, have steep rocky coasts, a mountainous interior (7,700 ft.) seamed with glens, and a most excellent climate—a pure atmosphere and equable temperature (50° to 73½° F. being the range). The soil is fertile, and produces fine oranges, good wine (some 970,000 galls. annually), various other fruits, yams, bananas, coffee, sugar, and tea. Fishing is one of the chief occupations. Pottery, cottons, spirits, hats, woollens, linens, cheese and butter, soap, baskets and mats, bricks and tiles, are all made on the islands. The total trade reaches an annual value of over £200,000. The only tolerably safe harbour is at Horta, on Fayal I. Volcanic outbursts have shaken the archipelago in 1591, 1638, 1719, and 1841. There are several mineral springs. The principal islands are São Miguel, or St. Michael, 300 sq. m., and pop. 127,000, its chief town being Ponta Delgada, with 18,000 inhabitants; Terceira, 163 sq. m., and pop. 49,000, the chief town being Angra, with 11,000 inhabitants; Pico, 173 sq. m., and pop. 24,000; Fayal, 69 sq. m., and pop. 22,000—chief town Horta, with 7,000 inhabitants; São Jorge, or St. George, 94 sq. m., and pop. 16,000; Graciosa, with 24 sq. m., and 8,400 inhabitants; and the smaller St. Mary, Flores, and Corvo. The total area is 922 sq. m.; the total pop. 260,000; the chief town of the entire ar-





*Aztec Remains.*

1. Terra-cotta fanciful bust, covering square box, found near Zachila. 2. Representation of Tonatish, the substance of the sun. 3. Pyramid near Tehuantepec. 4. Temple near Palenque.



chipelago is Ponta Delgada. The people are mainly of Portuguese descent, but have a blend of Moorish and Flemish blood: because of the Flemish settlers introduced there by Isabella of Burgundy in 1466, the group was for some time known as the *Ilhas Flamengas*, or Flemish Islands. The Azores were discovered at an early date, but were first explored by the Portuguese navigator Cabral in 1431. The islands, till then uninhabited, were colonized by the Portuguese soon afterwards. In 1828-33 the islanders rendered loyal assistance to King Pedro against the usurper Miguel. See Godman's *Nat. Hist. of the Azores* (1870); Ray's *The Azores* (1892); and Brown's *Madeira and the Azores* (1903).

**Azotized Bodies**, an old name for nitrogenous compounds.

**Azotus**. See ASHDOD.

**AZOV**, fort. tn., Russia, on l. bk. of Don, 7 m. from its mouth, 25 m. E. of Taganrog. The navigation of the river at this point is impeded by silt. The inhabitants are mainly engaged in fish-curing. Pop. 27,500.

**AZOV, SEA OF** (anc. *Palus Mæotis*), is a sea which penetrates into the s. of Russia, and is connected s. through the Strait of Kerch or Yenikale with the Black Sea. From the shore of the Crimea, in the s.w., to the mouth of the Don, in the n.e., it measures 220 m. It covers an area of 14,515 sq. m., and is everywhere very shallow, the maximum depth being only 53 ft. At the s.w., along the Crimean shore, it forms a long, narrow lagoon, separated by a ribbon of sand, and known as Sivash, or the Putrid Sea; and a further series of irregularly-shaped lagoons stretch across the n. of the Crimea to the isthmus of Perekop. Navigation of the Sea of Azov is beset with great difficulties, not only because of its extreme shallowness, but also because of the

storms to which it is always liable, while in winter it is generally ice-bound. Its surface lies at about the same level as the surface of the Black Sea. Its waters, which are less salt than those of the Black Sea, teem with fish. Some three centuries before the Christian era the Greeks had flourishing mercantile colonies in the Azov region, and maintained them for at least seven hundred years; and again in the 13th and succeeding centuries other commercial stations (*e.g.* Tana) were established here by Genoese, Venetians, and Pisans.

**Azpeitia**, tn., prov. Guipuzcoa, Spain, 20 m. s.w. of San Sebastian; the birthplace of Ignatius Loyola, founder of the Jesuits. There are pilgrimages (July) to the monastery in which his house is preserved. Pop. 6,000.

**Azrael**, or ASRAEL, the 'Angel of Death,' is a figure in Jewish mythology as far back as the days of King Solomon. Like many other personages in the religion of the Hebrews, he has been recognized by the Mohammedans as one of the servants of Allah.

**Aztecs**, one of the chief cultured peoples of the New World; so called from Aztlan, the fabulous land of the 'Seven Caves' in the north, whence they migrated southwards, and founded a powerful empire in the valley of Mexico, some three or four hundred years before the discovery of America. Here they had been preceded by the Chichimecs and other conquering tribes, all belonging to the Nahua race, which had overthrown the still earlier empire of the Toltecs, and borrowed much of their culture. The relations are very obscure, but much light has been thrown on them by E. Seler's commentaries on the Mexican pictorial codices of the Aubin, Fejérvary-Mayer, and Vatican collections (English editions by



A. H. Keane, 1901, 1902, 1903), from which the Aztecs would seem to have been northern barbarians, who developed their political and social systems under the influence of the Toltec (Maya) civilization which they had destroyed. Their polytheistic religion was largely their own, and this was marked by human sacrifices and other unspeakable horrors unapproached by any other religious system of which there is record. Their astronomy was mainly astrological, or used for astrological purposes—the determining of good and evil days, divination, the taking of horoscopes, witchcraft, and the like. Yet they could take accurate observations, not only of lunations, but also of the periods of Venus; divided the solar year into 18 months of 20 days each, with 5 intercalaries; named each day by consecutive hieroglyphic signs (the day counts); and calculated annual periods of 4, 13, 52, and some say even  $52 + 52 = 104$  cycles. But the writing system was mainly pictorial, with few phonetic elements, and in this respect was greatly inferior to the Maya, which approximated to a true phonetic syllabary. The Aztec monuments also—mainly *teocalli*—i.e. truncated pyramids surmounted by temples—were not to be compared with those of Yucatan, while the finest in Mexico itself (Teotihuacan, Colula, Papantla) were the work of their Toltec predecessors. Before the overthrow of their empire by Cortes in 1520, the Aztecs had reduced the civilized peoples of Oajaca (Zapotecs, Mixtecs, etc.), and had founded settlements far to the s., where their descendants, the Pipils of Guatemala, Salvador, and the Niquirans of Nicaragua, still speak a corrupt form of the Nahua stock language. This language, which has long been cultivated, is at present spoken by about 1,000,000 full-blood Aztecs,

and perhaps 500,000 half-breeds, on the Anahuac table-land. See Peñafiel's *Monuments of Ancient Mexican Art* (1891); Payne's *History of the New World*, vol. i. (1892); also works cited under MEXICO.

**Azuaga**, tn., prov. Badajoz, Spain, 17 m. from Llerena. Centre of silver-lead-mining district. Important Roman ruins. Pop. 14,000.

**Azuay**, or ASUAY, prov. Ecuador, lying n.w. of Oro and Loja. Area exceeds 6,000 sq. m. Agriculture and cattle-raising are the main occupations. The cinchona tree is found abundantly on the mountains. Pop., mostly Indians. 132,000. Chief tn. is Cuenca.

**Azul**, tn., prov. Buenos Ayres, Argentina, 175 m. s. by w. of Buenos Ayres. It has steam mills and quarries. Pop. 7,800.

**Azulai**, HAIM JOSEPH DAVID (1724–1807), Jewish bibliographer, born in Jerusalem, but lived and died in Leghorn. His *Shem-ha-Gedolim* ('The Name of the Great Ones') is a catalogue of Jewish authors and their books.

**Azuni**, DOMENICO ALBERTO (1749–1827), Italian historian and jurist, was born and died in Sardinia, but held judicial offices in Nice and Genoa, and was placed by Napoleon on the commission which drew up the commercial code. The *Sistema Universale dei Principi del Diritto marittimo dell' Europa* (1795), *Dizionario della Giurisprudenza Mercantile* (1786–8), and *Histoire de Sardaigne* (1802) are his chief works.

**Azure** (abbrev. Az), in heraldry the colour blue, represented in engraving by horizontal lines.

**Azurine**, or BLUE ROACH, is, according to some authorities, a mere variety of the rudd or red-eye (*Leuciscus erythrophthalmus*), a fresh-water fish common in certain parts of England, where it accompanies the roach. According to others, however, the azu-



rine merits specific rank; it is then called *caeruleus*. See RUDD and ROACH.

**Azurite**, a copper ore, so called from its deep blue colour, and also known as chessylite, from its abundance in beautiful crystals at Chessy, near Lyons. It is a basic carbonate of copper, and, like malachite, which it often accompanies, is found chiefly where copper ores

have been exposed to water containing carbonic acid. It was formerly much used by painters, but is liable to change to malachite and become green: this is believed to be the origin of the green skies in some old paintings.

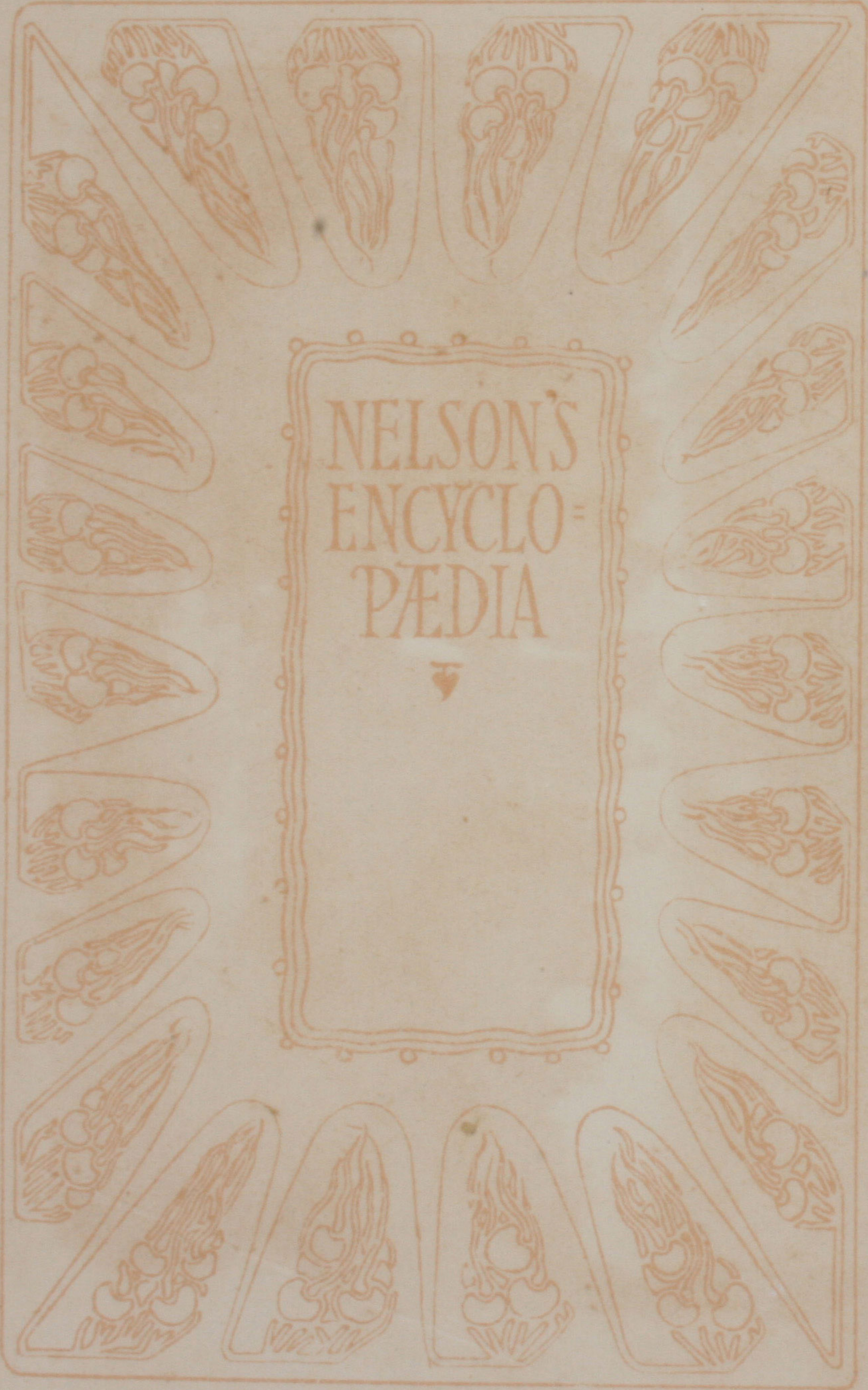
**Azymites** (Gr. 'not leavened'), a name applied to members of a church where unleavened bread is used in the eucharist.







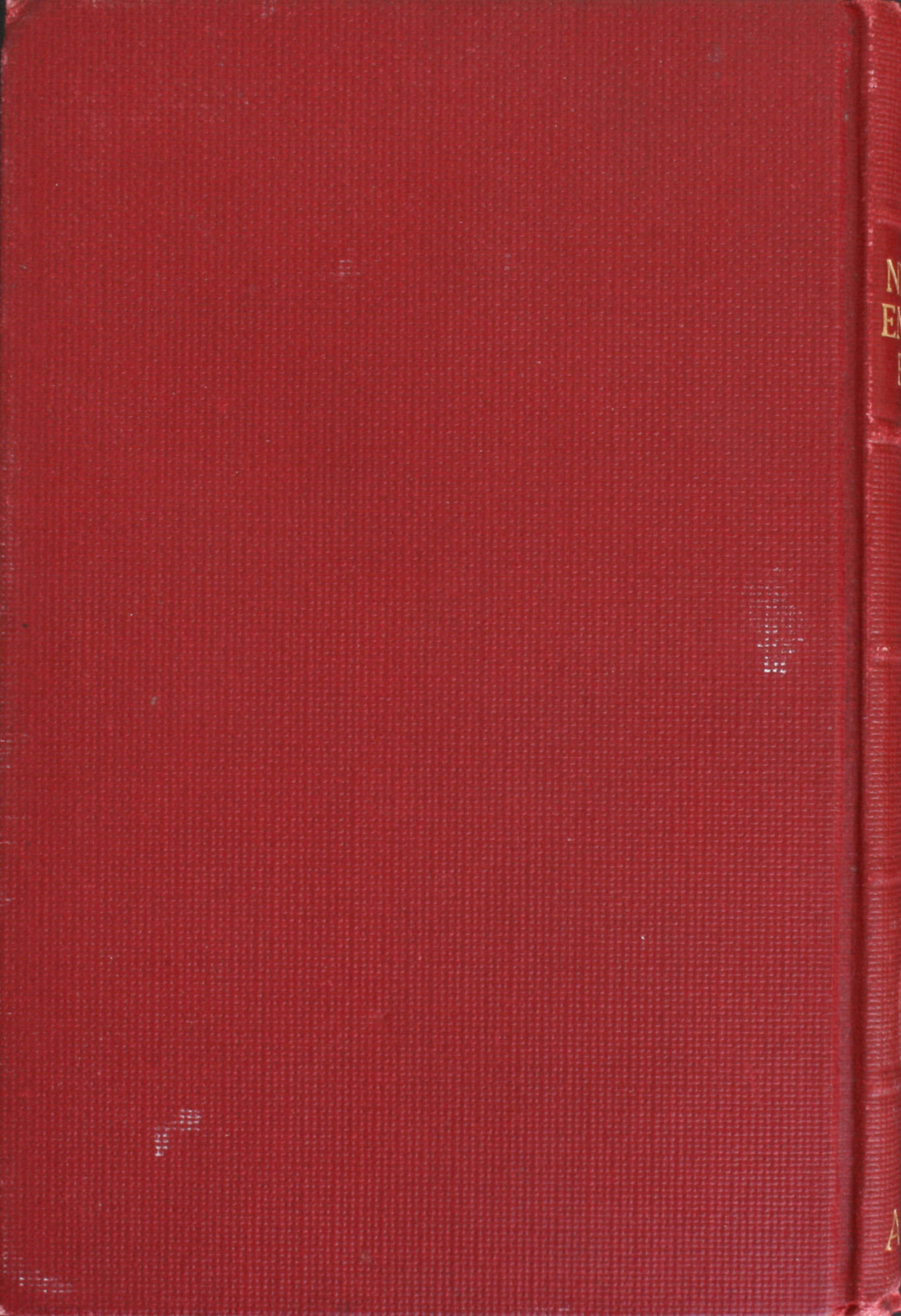
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