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Volume 11

HALICARNASSUS *TO* HYDROXYLAMINE

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HALICARNASSUS *TO* HYDROXYLAMINE

HALICARNASSUS (modern BODRUM in southwestern Turkey), an ancient Greek city of Caria, situated on the Ceramic gulf facing south. Its inhabitants claimed that it had been founded from Troezen in the Peloponnese. Herodotus, himself a Halicarnassian, relates that in early times the city participated in the Dorian festival of Apollo at Triopion near Cnidus but was expelled in consequence of the offensive conduct of its victorious athlete Agasicles; yet Halicarnassus appears thoroughly Ionic in its literature and culture.

Possessing a large sheltered harbour, the city occupied a key position on the sea routes. Though not itself large, it became the capital of the small despotate whose most famous ruler was a woman, Artemisia, who won the admiration of Xerxes at the battle of Salamis (480 B.C.). It was a favoured station of the Athenian fleet after the revolt of the allies in 412, and under Mausolus it became the capital of the Carian principality (*c.* 370 B.C.). The city at this time received a great wall circuit, public buildings and a secret dockyard and canal, while its population was swollen by the enforced transference of the inhabitants of the neighbouring Lelegian (non-Greek) towns.

On the death of Mausolus in 353 his widow and sister, Artemisia the younger, constructed in Halicarnassus a monumental tomb (the Mausoleum) that was reckoned as one of the seven wonders of the world. It stood on a platform about 337 ft. square; of its sculptures, which were attributed to leading artists of the age, some damaged statues and many frieze slabs, mainly of a battle between Greeks and Amazons, survive (in the British museum, London). Nothing now remains above ground on the spot. According to the elder Pliny the building was rectangular in plan and measured 411 ft. in circumference, with 36 columns and a pyramidal roof crowned by a sculptured chariot and four, the total height being 140 ft. The design of the building is not altogether clear; many reconstructions have been proposed.

Under the Persian commander in chief (Memnon of Rhodes), Halicarnassus stubbornly resisted Alexander the Great in 334 B.C. and suffered severe damage when the garrison troops evacuated the town quarters. It was then subject in turn to the dowager satrap Ada, Asander, Antigonus I (Monophthalmus), who garrisoned it in 311, and Lysimachus (after 301). It was under the Ptolemies of Egypt between 281 and 197 B.C., but thereafter independent. Between 62 and 58 B.C. it was sacked by pirates. In early Christian times it was a bishopric. Among its famous citizens were the epic poet Panyassis and Dionysius, critical writer and rhetorician in Rome in the time of Augustus.

The site was extensively excavated for the British museum by C. T. Newton in 1856–58 and A. Biliotti in 1865. Much of the great wall circuit is preserved; and remnants of the gymnasium, a late colonnade and a temple platform may be seen among the hamlets of the modern town of Bodrum (also rock-cut tombs with multiple burial chambers). But the ancient remains are eclipsed by the spectacular pile of the castle of the Knights of St. John, founded by the grand master Philibert de Nailhac about A.D. 1400, abandoned in 1522 and subsequently garrisoned by the Ottomans.

See C. T. Newton and R. P. Pullan, *A History of Discoveries at Halicarnassus, Cnidus and Branchidae,* 2 vol. (1862–63); G. E. Bean and J. M. Cook, "The Halicarnassus Peninsula" in *Annual of the British School at Athens,* vol. 50, pp. 85 ff. (1955). (Jo. M. Co.)

HALIDE EDIB ADIVAR (1883–), Turkish author, was a pioneer of the emancipation of women in Turkey. Born in Istanbul and educated by private tutors and at an American college there, she was soon actively engaged in literary, political and social movements. Her novel *Yeni Turan* (1912; German trans., *Das neue Turan,* 1916) portrays the nationalistic trends of the period. After educational work in Syria during World War I she and her husband, Adnan Adivar, joined the Nationalists and she served as a corporal in Anatolia. During 1925–38 she traveled extensively, lecturing in Paris, London, the United States and India. She became professor of English literature at Istanbul university (1939) and a member of parliament (1950–54). Her early novels, such as *Handan* (1912), written with passionate intensity, are studies in the problems of the educated women of her day. Later books, such as *Ateshten Gömlek* (1922) and *Zeyno nun Oglu* (1926), are concerned with war in Anatolia and renascent Turkey. Novels of her third phase, such as *Sinekli Bakkal* (1936; originally written in English as *The Clown and His Daughter*) and *Döner Ayna* (1953), are character studies and well-drawn portraits of Turkish society. Other books written in English include her *Memoirs* (1926) and *Conflict of East and West in Turkey* (1936). (F. I.)

HALIDON HILL, BATTLE OF. With this battle, fought on July 19, 1333, the English king Edward III began his triumphant military career in Scotland and France. When Edward besieged Berwick on behalf of his vassal, Edward Balliol (*see* BALLIOL), the defenders agreed to capitulate unless relieved by July 20, 1333. Thus forced to fight a pitched battle to relieve the town, Sir Archibald Douglas, regent for the young David II, found its approaches blocked by the English on Halidon hill. Elaborating upon the tactics used at the battle of Dupplin (*q.v.*), Edward had dismounted the three divisions of his army and posted archers on the wings of each to harass the attackers by enfilade fire. Having also dismounted, the three divisions of the Scottish host were riddled with arrows as they advanced across swampy ground and then struggled uphill. Those who reached the English lines were soon overcome. Mounting their horses, the English hunted the fugitives till dusk. The next day Berwick surrendered. But although Balliol was reinstated, Scottish resistance continued and ultimately prevailed.

See J. H. Ramsay, *Genesis of Lancaster,* vol. i (1913); R. Nicholson, "The Siege of Berwick; 1333," *Scottish Historical Review,* vol. xl (1961). (R. G. NI.)

HALID ZIYA USHAKLIGIL (1865–1945), Turkish author, was the first true exponent in Turkey of the novel in its contemporary European form. Born in Istanbul of a western Anatolian family and educated at a French school in Izmir, he founded the newspaper *Hizmet* in which was serialized his early work: essays, translations from the French and several sentimental novels. Two of these, *Bir Ölünün defteri* (1889) and *Ferdi ve Shürekasi* (1894), revealed his potentialities. The hero of his novel *Mai ve Siyah* (1897), published in the periodical *Servetifünun,* was the spokesman for the "new literature" movement. His masterpiece, *Ashk-i Memnu,* appeared in 1900 and was followed by many more novels and a series of short stories. His characters and situations, though mainly limited to westernized upper-class circles, are drawn from experience. In his short stories he depicts the everyday scenes of Turkish life. (F. I.)

HALIFAX, CHARLES MONTAGUE, EARL OF (1661–1715), British statesman, a prominent if unpopular member of the Whig Junto, was born at Horton, Northamptonshire, on April 16, 1661, into a cadet branch of the Montagues, earls of Manchester. At Trinity college, Cambridge, his brilliance attracted the attention of Isaac Newton and he was elected to a fellowship. Meanwhile, his poems had given him a reputation in London literary circles, and in 1687 he and Matthew Prior published "The Country Mouse and the City Mouse," a witty parody on Dryden's solemn "Hind and the Panther." He married Anne, dowager countess of Manchester, in 1688 and was elected member of parliament for Maldon in 1689.

Vain, hot-tempered and malicious, "the Little Man" was on bad terms with most of his contemporaries at one time or another, but his financial genius and his ability in debate carried him to the top. He was appointed a lord of the treasury in 1692, and he speedily introduced new methods of financing the war with France (1689–97) by public loans which culminated in the foundation of the Bank of England in 1694. In that year he was appointed chancellor of the exchequer, and was recognized as an equal member, with Sir John Somers (afterward Lord Somers), Thomas Wharton and Edward Russell, of the Whig Junto. Elected member for Westminster in 1695, he at once pushed through a scheme of national recoinage, which is still a subject of controversy; but the continued success of the Bank of England left William III, who detested him, with no choice but to appoint him first lord of the treasury in 1697. The departure of Edward Russell and Thomas Wharton to the lords left him undisputed leader of the commons, but in the first peacetime session of the reign (1697–98) he was obliged to conduct a brilliant but wearying rearguard action against constant opposition.

Whig losses in the elections of 1698 and the withdrawal of the king's confidence cooled his enthusiasm for commons politics still further and he resigned in 1699. Montague was created Baron Halifax in 1700, and the attempt to impeach him and the other Junto peers for their complicity in William's partition treaties failed (1701). Under Queen Anne the Junto's hopes were focused on the Hanoverian succession: Halifax went to Hanover in 1706 to confer the Garter on the elector, the future George I, and speedily won his full confidence and favour. Henceforward George regarded him as his most able and influential supporter in England, and on his arrival in 1714 to assume the crown he at once appointed Halifax first lord of the treasury and created him earl. Halifax died childless on May 19, 1715.

A fluent if uninspired poet himself, Halifax was also a great patron of letters. Addison, Congreve and Prior were all indebted to him and he secured the mastership of the mint for Newton. He was president of the Royal society (1695–98). His collected poems were published in 1715 and reprinted in Samuel Johnson's *English Poets.* (J. P. K.)

HALIFAX, EDWARD FREDERICK LINDLEY WOOD, 1ST EARL OF (1881–1959), British statesman who was viceroy of India from 1925 to 1931 and foreign secretary in the period culminating in the outbreak of World War II, was born at Powderham castle, Devon, on April 16, 1881. He was the fourth son of the 2nd Viscount Halifax, a well-known churchman and a leader of the Anglo-Catholic movement, whose family had been established in Yorkshire for generations. He was educated at Eton and Christ Church, Oxford, being elected a fellow of All Souls college, Oxford, in 1903.

Wood entered parliament as Conservative member for Ripon, Yorkshire, in Jan. 1910, and for the next 30 years had a most successful career in politics. His grave manner and his air of aristocratic detachment counted in his favour, but some who knew him well regarded him as a very astute politician. During World War I he served for a time with the Yorkshire dragoons in France, but was assistant secretary to the ministry of national service from 1917 to 1918. Before 1925, when he was appointed viceroy of India and raised to the peerage as Baron Irwin, he was successively undersecretary of state for the colonies (1921–22), president of the board of education (1922–24) and minister of agriculture (1924–25). He was viceroy until 1931. On his return from India he again became president of the board of education (1932–35). He succeeded to his father's viscountcy in 1934. Thereafter he was lord privy seal (1935–37), leader of the house of lords (1935–38) and lord president of the council (1937–38), before being appointed foreign secretary on Feb. 25, 1938, on Anthony Eden's resignation from Neville Chamberlain's government.

Halifax had been close to Chamberlain long before he became foreign secretary, and when Chamberlain resigned in May 1940 he hoped Halifax would succeed him as prime minister. In fact, the issue was decided otherwise at a meeting between Chamberlain, Halifax and Churchill. Halifax remained foreign secretary for the first seven months of Churchill's ministry, but in Dec. 1940 he was named British ambassador to the U.S.

Halifax's career thus had three notable phases: as viceroy, as foreign secretary and as ambassador. His term of office in India coincided with a period of intense nationalist ferment among Hindus and Muslims alike, but his own deep concern with religious faith (like his father, he was a devout high churchman) enabled him to work on terms of understanding with Gandhi, the most powerful figure among Indian nationalists at that time. Halifax accelerated the processes of constitutional advance by using his great influence to that end both during his viceroyalty and after. His tenure of the foreign office was the most controversial period of his career, for by accepting this appointment he identified himself completely with Chamberlain's policy of "appeasement" toward Hitler. As lord privy seal he had visited Hitler and Goering in Nov. 1937, and he accompanied Chamberlain on a visit to Mussolini in Rome in Jan. 1939. As ambassador to the U.S. he gave great service to the Allied cause during World War II, in recognition of which he was created earl of Halifax in 1944. Named British delegate to the San Francisco conference in March 1945, he attended the first sessions of the United Nations. His resignation as ambassador became effective on May 1, 1946. In 1957 he published a volume of recollections *Fullness of Days.* He died at Garrowby hall, near York, on Dec. 23, 1959. (J. F. B.)

HALIFAX, GEORGE MONTAGU DUNK, 2ND EARL OF (1716–1771), English statesman, the son of George Montagu, 1st earl of Halifax, was born on Oct. 5 or 6, 1716, and succeeded his father in 1739. He became president of the board of trade in 1748 and took an active interest in colonial development, helped to found Halifax, Nova Scotia, which was named after him, and in several ways rendered good service to trade, especially with North America. He was lord lieutenant of Ireland from March 1761 to March 1763 and for a time concurrently first lord of the admiralty, from June to Oct. 1762, in Lord Bute's administration and then became secretary of state for the northern department, transferring to the southern department in 1763. Halifax signed the general warrant under which John Wilkes was arrested in 1763 and for this he had to pay damages in 1769. He was mainly responsible for the exclusion of the name of Augusta, princess dowager of Wales, from the regency bill in 1765, a move which exacerbated George III's relations with the Grenville ministry and led to its demise a few weeks later. Halifax was lord privy seal during 1770 in the ministry of his nephew, Lord North, and was again secretary of state for the northern department during 1771 from January until his death on June 8.

HALIFAX, GEORGE SAVILE, 1ST MARQUESS OF (1633–1695), English statesman and political writer known as "The Trimmer," because of his seemingly opportunist principles, was born at Thornhill, Yorkshire, on Nov. 11, 1633, and succeeded his father, Sir William, as 4th baronet on Jan. 24, 1644. Too young to take any part in the Civil War, in which Sir William was prominent on the royalist side, he spent his early years partly in travel, with a private tutor, in France and Italy, and partly in retirement at Rufford abbey, Nottinghamshire, which he was to make the principal seat of his family. In the spring of 1660 he was returned as member for Pontefract to the convention which recalled the king, but there is nothing to suggest that he made any strong impression on contemporaries during this, his sole appearance in the house of commons. He was created Baron Savile of Eland and Viscount Halifax in Jan. 1668.

For this promotion Halifax was indebted partly to his extensive estates and connections with the great families of Talbot, Wentworth and Coventry, but partly also, it may be presumed, to the influence of the 2nd duke of Buckingham, then at the height of his power, with whose fortunes he and other young Yorkshiremen had chosen to associate themselves. To Buckingham he certainly owed his local offices of justice of the peace, deputy lieutenant and colonel in the militia. When, however, the duke embarked on the policy which ultimately led to the secret treaty of Dover, Halifax began to draw away from him. Although admitted to the privy council in 1672 and sent on a mission to Louis XIV in connection with the Anglo-French attack on the Dutch, Halifax remained faithful to the principles of the triple alliance and therefore opposed to the existing government. On the other hand, when Charles II reversed his policy and gave the chief place in his counsels to the earl of Danby, Halifax proved equally unready to accept what seemed to him the extravagances of the new regime. He strenuously opposed Danby's non-resisting test bill, by which members of both houses of parliament, and all holding office under the crown, were to be required to subscribe to a declaration that it was unlawful, upon any pretense whatsoever, to take up arms against the king, and to swear that they would not, at any time, endeavour the alteration of the government either in church or state. He denounced the court's attempt to control public opinion by suppressing the coffeehouses; and he condemned the policy of continuing the Cavalier parliament in existence long after it had ceased to be representative of national feeling. Thus early did he adopt that policy of "trimming," or balancing between opposing factions, with which his name came to be inseparably connected.

Halifax had been dismissed from the privy council on Jan. 7, 1676, for criticizing the government's measures against the coffee sellers, but on April 21, 1679, on the complete remodeling of the council associated with the name of Sir William Temple, he was again admitted, ingratiated himself with Charles II, and for some time thereafter enjoyed a position of considerable power and dignity. He was created earl of Halifax on July 16, 1679, marquess of Halifax on Aug. 22, 1682, and lord privy seal on Oct. 27, 1682. During these years his ambition was to secure the establishment of a truly national government on a moderate basis, and the chief dangers he had to provide against were the Catholic-despotic developments threatened by the probable succession of James, duke of York, on the one hand, and on the other the semirepublican designs of those who wished to exclude the duke altogether from the throne. His greatest personal triumph was the defeat of the exclusion bill in the house of lords on Nov. 15, 1680; but he proved unable to devise any generally acceptable substitute for the policy of exclusion, and as the duke's influence increased after 1682 his own inevitably declined. Toward the close of Charles's reign a reaction seemed to be developing which might have led to his restoration to power, but all prospect of this disappeared with the death of the king on Feb. 6, 1685. Appointed lord president of the council by James, he was retained in office only to give an appearance of moderation to a government which was rapidly tending toward extremes. On Oct. 21, as a result of his refusal to support the repeal of the Test and Habeas Corpus acts, he was summarily dismissed.

For the next three years Halifax remained in retirement, criticizing James's designs, as they revealed themselves, in the political pamphlets on which his fame so largely rests. In his *Letter to a Dissenter,* published in 1687, he warned Nonconformists of the danger of placing their trust in the king's promises of toleration; and in his *Anatomy of an Equivalent,* which appeared a year later, he demonstrated the absurdity of relying on any substitute for the safeguards of the established religion which already existed. Meanwhile he kept in touch with the more moderate among those who were contemplating resistance; but actual revolution he deprecated. The king's designs, he confidently maintained, were bound to fail of themselves, and all that was necessary was to wait.

When William of Orange landed in England and civil war seemed inevitable Halifax was thus in a strong position to mediate between the king and the prince, and exerted himself to the utmost, first to induce them to accept a reasonable accommodation, and then, after the flight of James, to set up a provisional government which might negotiate with either or both. Only when all such expedients had failed did he boldly take the side of William, and it was largely as a result of his efforts in the convention parliament of 1689 that William and Mary were accepted as king and queen. On him, as speaker of the lords, fell the duty of formally requesting the prince and princess to accept the crown.

To contemporaries it appeared that the reappointment of Halifax to his old office of lord privy seal and his acceptance as chief minister of the crown were natural consequences; but in actual fact the favour which Halifax enjoyed with William was not so much because of his services at this time as to the similarity of their political outlook. William was as anxious as Halifax for a reconciliation of parties based on a policy of "trimming," and hoped through Halifax to achieve that end. Only when it became apparent that in the heated atmosphere of the time such a policy was impracticable did his confidence in Halifax begin to waver, and even then it was Halifax who on Feb. 11, 1690, tendered his resignation, not William who required it. Thereafter Halifax was to be found mainly in opposition to the government of the moment. Toward the close of 1694 his health began to fail, and on April 5, 1695, he died suddenly at Halifax house. He was succeeded by his second and only surviving son William (1665–1700), with whose death on Aug. 31, 1700, the peerage became extinct.

The high reputation of Halifax among moderns is due to the fact that the political principles which guided his conduct and inspired his writings are such as would now be generally approved; but in his own day these principles were regarded with little favour. The moderation which he consistently advocated was denounced as treachery by every group of partisans who hoped to enlist his support, and not infrequently he had to withstand attacks from opposite sides at once. He lacked the practical capacity, and indeed the inclination, to organize a band of followers in support of his principles, and suffered from serious personal weaknesses which exposed him to the criticism of his numerous enemies. His passion for titles, leading to his rise from the dignity of baronet

to that of marquess, seemed scarcely in accordance with his high professions of disinterestedness. His inordinate love of applause cast doubt on the sincerity of his most brilliant speeches. His tendency to see both sides of a question made him unready, even at a time of crisis, to take any resolute action. Few statesmen of comparable capacity have had less direct influence on the actual events of their time.

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HALIFAX, capital of Nova Scotia, Canada, and leading commercial, industrial and cultural city of the province, is on a rocky, boot-shaped peninsula, 4½ mi. long and 2 mi. wide. The harbour proper, on the east side of the peninsula, has extensive berthing facilities, while the inner harbour, Bedford basin, 6 mi. long and 4 mi. wide, is deep enough for the world's largest ships. Pop. (1961) city 92,511; metropolitan area 183,946. Included in the metropolitan area is the city of Dartmouth (*q.v.*), linked to Halifax by the mile-long Angus L. Macdonald suspension bridge completed in 1955.

The harbour of Halifax was noted by Champlain in 1605 but was not exploited until 1698 when the French established the fishing station, Chebucto, on McNab's Island. Plans were drawn up for a large fortress at Chebucto, but mainland Nova Scotia was lost to the English in 1713 and the French subsequently constructed a fortress (Louisbourg) on Cape Breton Island. Seeking a counterpoise to Louisbourg, Edward Cornwallis founded Halifax in 1749, naming it after the president of the Board of Trade and Plantations. For many years Halifax was little more than a military garrison, with forts and Martello towers (*q.v.*) strategically located throughout the area. Prince Edward, Queen Victoria's father, and others fortified Halifax until it had the strongest defenses outside of Europe. Halifax was an imperial army and naval base until 1906 when the defenses and dockyard were taken over by the Canadian government. Because of its strategic position it was Canada's largest and most important naval base during World Wars I and II.

Although the city has never been besieged, it has had more than its share of disaster during wartime. In 1917 the French steamship "Mont Blanc," laden with TNT, explosive acid and benzine, collided in the Narrows with the Norwegian steamer "Imo." The explosion that followed killed nearly 2,000 people and seriously injured an equal number. Windows were rattled 60 mi. away and an anchor shaft, weighing 1,000 lb., was hurled over 2 mi. from the scene. Much of the north side of the city was devastated, with property damage amounting to $35,000,000. A similar holocaust almost occurred in 1945, but the periodic explosions were not so great and they took place in Bedford basin well away from the populated areas.

Halifax is a leading Canadian port, particularly during the winter months, with fish, fish products, lumber and agricultural products being its major exports. It is the Atlantic terminus of the Canadian National railway and the Dominion Atlantic railway, the latter a part of the Canadian Pacific system. The area is served by two airports, one across the harbour at Eastern Passage, and an international airport at Kelly Lake, 20 mi. N.E. of Halifax.

Industries of Greater Halifax include foundries, oil refining, shipbuilding, fish processing, and the manufacture of candy and food products, rope and twine, paint and varnish, clothing, electronic equipment and furniture. There are ship and aircraft overhauling facilities.

Among many prominent historic buildings are St. Paul's (Anglican) church, built in 1750, with many interesting memorial tablets and graves of celebrated Nova Scotians; Government house, erected in 1900, the residence of the lieutenant-governor; Province house, completed in 1819, the provincial legislative building; and the Old Clock, regarded as a Haligonian symbol, built on the side of Citadel Hill in 1803. Educational institutions include Dalhousie university (founded 1818), to which is affiliated the University of King's college (Anglican, founded 1789); St. Mary's university (Roman Catholic, founded 1841); Mount St. Vincent college, for women (Roman Catholic, chartered 1925); and Nova Scotia Technical college (founded 1909). Other interesting features are Citadel Hill, the Public Gardens, Point Pleasant park and Ft. Needham.

See T. Raddall, *Halifax, Warden of the North* (1948). (C. W. RD.)

HALIFAX, a municipal, county and parliamentary borough in the West Riding of Yorkshire, Eng., 191 mi. N.N.W. from London and 8 mi. S.W. from Bradford by road. Pop. (1961) 96,073.

It lies in a hilly district on the Hebble, a tributary of the Calder which forms the southern boundary. The steep left bank of the Hebble restricts urban development, and Beacon hill, rising sharply to 850 ft., overlooks the town. Road and railway bridges span the valley, the principal one being North bridge, opened in 1871. The main part of the town is situated on the slope of a long declivity facing east on the right bank of the stream. After World War II extensive suburban development took place on the northern side of the town, in the elevated district of Illingworth and at Mixenden in the Wheatley valley.

In Saxon times Halifax formed part of the extensive manor of Wakefield held by Edward the Confessor. After the Norman Conquest the manor of Halifax (Feslei in Domesday Book) was granted to William, earl of Warenne and Surrey, who made a gift of Yorkshire churches, including Halifax, to the Cluniac priory at Lewes in Sussex. The church was dedicated to St. John the Baptist, patron saint of wool weavers. The cloth trade has been plied in Halifax from an early date—the first record of a weaver being in 1275. In the alnagers' accounts for 1473–75 Halifax parish had the largest cloth production in the West Riding, a position it retained for three centuries. The late survival of the Halifax Gibbet law was ascribed traditionally to the need for safeguarding the kerseys left on tenter frames in the open fields. The inhabitants retained the power to behead anyone found guilty of stealing cloth "of the value of thirteen pence halfpenny" or more. The celebrated gibbet, similar to the Scottish maiden and French guillotine, operated without human handling, a rope drawn by horse or sheep pulling out the pin to release the blade. The last of the executions, which took place on market days, was in 1650. The stone platform may still be seen at Gibbet hill. The blade is in the possession of the lord of the manor of Wakefield. During the Civil War Halifax was garrisoned by parliament although in 1643 royalist troops occupied it for six months.

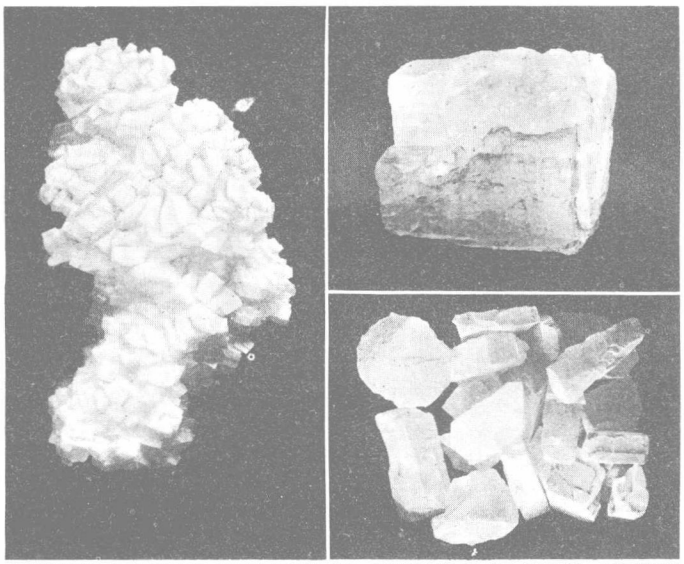
Built largely in the 19th century, Halifax is a development of the industrial era, though some older buildings remain. The parish church is Perpendicular and two earlier churches are traceable—the first of Norman origin and the second of the Early English period. Features of the church are the western tower completed in 1482, unique Commonwealth windows of plain glass with beautifully designed leading and some fine woodwork. Among the public buildings are the town hall in the Palladian style, designed by Sir Charles Barry, opened in 1863; the central library and Bankfield museum housed in Victorian mansions; and Shibden hall, a 15th-century timbered house with the Halifax and West Riding Folk museum on its grounds. Heath grammar school was founded in 1585 with a royal charter. The Piece hall (opened in 1779), where woolen piece goods were lodged and sold, is preserved as an ancient monument. Wainhouse tower, an octagonal tower with staircase and balconies, is a familiar landmark in the borough.

Halifax, an industrial town, is prosperous because of its manifold trades. It is a centre of the woolen and worsted industries, other textile products being cotton, silk, rayon and moquette. The manufacture of carpets is important and other industries include iron and steel, wire drawing, brewing and confectionery. Halifax specializes in the production of machine tools and also manufactures boilers, card clothing and cash registers. Freestone and fire clay are abundant in the neighbourhood. The town is well equipped with gardens and parks, the most notable being Savile park, an expanse of 72 ac. of grassland. There are numerous charitable endowments, the earliest, the Waterhouse charity, dating from 1635. The town is the regimental depot of the duke of

Wellington's regiment, which has been accorded the freedom of the borough. There are literary and artistic associations with Sir Thomas Browne, Daniel Defoe, Laurence Sterne and the Brontës.

Halifax was first represented in parliament in 1654 but lost the seat after the Restoration. The Reform act of 1832 gave the town two members. It was a borough by prescription but was not incorporated until 1848; the county borough was created in 1888 and one member is returned to parliament. (F. C. P.)

HALITE, the mineralogic name for naturally occurring sodium chloride, common or rock salt. It occurs in well-formed cubic crystals, which occasionally exhibit hopper-shaped depressions. Halite also occurs commonly in granular masses. Although it is



BY COURTESY OF (LEFT AND BOTTOM RIGHT) U.S. DEPARTMENT OF THE INTERIOR, GEOLOGICAL SURVEY; (TOP RIGHT) WARD'S NATURAL SCIENCE ESTABLISHMENT, INC.

FORMS OF HALITE: (LEFT) CUBIC SALT CRYSTALS FROM SILVER PEAK MARSH, NEV.; (TOP RIGHT) CUBIC CLEAVAGE IN CRYSTALLINE MASS OF HALITE FROM DETROIT, MICH.; (BOTTOM RIGHT) LARGE PLATES OF ROCK SALT FROM MINE IN GENESEE COUNTY, N.Y.

characteristically colourless, it may exhibit brownish, bluish, and other tints. The mineral is characterized by high solubility in water, distinctive salty taste, low specific gravity (2.16), and cubic cleavage.

Most halite occurs in bedded deposits formed by evaporation of bodies of salt water. Deposits range from a few feet to hundreds of feet in thickness and from a few tens of square feet to thousands of square miles in area. The deposits are characteristically associated with beds of limestone, dolomite, shale, and not uncommonly are interbedded with gypsum, anhydrite, and other soluble sodium, potassium, magnesium and calcium salts.

Such deposits are widely and abundantly distributed throughout the world, notably in the U.S.S.R., Germany, Poland, France, Spain and the U.S. In the U.S. very extensive deposits occur in New York, Ohio, Michigan and Pennsylvania and in Kansas, Colorado, Oklahoma, Texas and New Mexico. Halite also occurs along the Gulf of Mexico and the Mediterranean sea, in Rumania and in the U.S.S.R. in large pluglike bodies termed salt domes. Petroleum and sulfur are frequently associated with such domes.

Halite is an essential raw material for the preparation of soda ash, the production of sodium and chlorine compounds in the chemical industry, preservatives in the food-processing industry and for a host of other purposes. *See* also SALT: *Rock Salt;* SALT DOME. (D. M. H.)

HALL, ASAPH (1829–1907), U.S. astronomer and discoverer of the two satellites of Mars, was born on Oct. 15, 1829, at Goshen, Conn. In 1863 he was appointed professor in mathematics at the U.S. Naval observatory, Washington, D.C. This position he held until his retirement in 1891. From 1895 to 1901 he was professor of astronomy at Harvard. At the naval observatory Hall had the 26-in. equatorial telescope under his charge from 1875 to 1891. His work with it was chiefly in three fields: planetary observations and the orbits of their satellites; observations of double-star orbits; determinations of the stellar parallax. In each of these fields Hall's extensive observations were of great value. His most spectacular achievement was the discovery in 1877 of the two satellites of Mars, whose orbits he calculated. He died at Annapolis, Md., on Nov. 22, 1907.

See G. W. Hill, *Biographical Memoir of Asaph Hall* (1908), which contains a full bibliography of Hall's scientific writings.

HALL, BASIL (1788–1844), British naval officer and traveler, fellow of the Royal society, was born on Dec. 31, 1788, the son of the geologist Sir James Hall of Dunglass, and entered the navy in 1802. He accompanied Lord Amherst's embassy to China, publishing in 1818 his *Account of a Voyage of Discovery to the West Coast of Corea, and the Great Loo-Choo Island.* In 1820 he sailed for service in South America, describing his experiences in *Extracts from a Journal Written on the Coasts of Chili, Peru, and Mexico, in the Years 1820, 1821, 1822* (2 vol., 1824). Leaving the navy he then undertook further travels and published *Travels in North America in the Years 1827 and 1828* (3 vol., 1829). His *Fragments of Voyages and Travels* (9 vol., 1831–33) throws interesting light on the British navy. Hall died in Haslar naval hospital on Sept. 11, 1844. (H. M. Ws.)

HALL, CARL CHRISTIAN (1812–1888), Danish statesman whose name is linked with the Schleswig-Holstein question (*q.v.*), was born at Christianshavn, in Copenhagen, on Feb. 25, 1812. He was trained in the law and was from 1848 one of the leaders of the National Liberal party. An attractive and convincing debater with an amiable humour, he was also esteemed in conservative circles. He wanted to organize the middle class into a political party and tried to avoid serious dissensions in the question of Danish constitution. Like most Liberals, he wanted the duchy of Schleswig (Slesvig) to be more closely bound to Denmark than to the entirely German Holstein, but accepted the so-called *helstatsforfatning*—the idea of a single state with a common *rigsraad* (1855). Having been minister of public worship from Dec. 1854 in P. G. Bang's cabinet, he became prime minister on May 13, 1857, and was also foreign minister from July 1858.

As the German confederation objected to the constitution of 1855, Hall suspended its validity as far as Holstein was concerned; but the *rigsraad* continued to legislate for Denmark and Schleswig, since Hall regarded the closest possible union between Denmark and a Schleswig freed from all risk of German interference as the essential condition for Denmark's independence. Having tried in vain to reach agreement with the Germans by negotiation, he resigned on Dec. 2, 1859, but returned to power on Feb. 24, 1860. Though Denmark had no guarantee of help from Sweden-Norway or from other states, in 1863 Hall carried through a proposal for a new common constitution for Denmark and Schleswig, which the new king, Christian IX, signed hesitatingly on Nov. 18. Now at the height of his popularity, Hall rejected the Prussian protest and the efforts of the powers to get the constitution annulled or to suspend its operation. Then an attempt to form a new cabinet failed, and Hall declined to join the government formed by D. G. Monrad on Dec. 31, 1863. When the war of 1864 had brought defeat, Hall after some hesitation supported acceptance of the peace treaty by which the duchies were ceded to Prussia and Austria. When the Franco-German War broke out in 1870 he favoured a policy of alliance with France. As minister of public worship (May 1870–July 1874) he worked for educational reforms. He opposed the parliamentary demands of the Liberal party and in 1879 was chosen as chairman of the Conservative party in the *folketing,* but was forced to retire by serious illness. He died in Copenhagen on Aug. 14, 1888.

See V. C. S. Topsöe, *Politiske Portraetstudier* (1878); Erik Möller, *Helstatens Fald* (1958). (F. Sk.)

HALL, CHARLES FRANCIS (1821–1871), U.S. explorer who led three arctic expeditions, was born in Rochester, N.H., in 1821 and emigrated as a young man to Ohio. His enthusiasm for arctic exploration led him to attempt to organize several expeditions in search of Sir John Franklin's lost party, but it was not until 1860 that he acquired funds to carry out his ambitions. He landed alone from a United States whaleboat in latitude 63° N.,

longitude 65° W. in Frobisher bay and spent two years exploring the area first discovered by Martin Frobisher in the 16th century. He became friendly with Eskimos who greatly assisted him in his later travels. In 1862 he returned to the United States and wrote *Arctic Researches and Life Among the Esquimaux* (1864). Financed by Henry Grinnell, he returned to the arctic in 1864 and, in company with Eskimos, explored in the eastern arctic for five years, discovering much information about the fate of Franklin's expedition and obtaining a number of relics of the party. In 1871 he commanded a United States government-sponsored expedition which sailed in a naval vessel, "Polaris," to attempt to reach the north pole. Ice conditions were very favourable and "Polaris" was able to reach latitude 82° 11′ N., longitude 61° W., then the furthest north point reached by a vessel. During the homeward voyage a number of sledge journeys were made and on the return from one of these Hall died suddenly, on Nov. 8, 1871.

(L. M. Fs.)

HALL, CHARLES MARTIN (1863–1914), U.S. inventor, was born at Thompson, O., on Dec. 6, 1863, and graduated at Oberlin college in 1885. While still at college he became interested in the problem of devising a cheap process for the reduction of aluminum. Working with such apparatus as the Oberlin laboratory afforded, he invented, eight months after his graduation, the electrolytic process which forms the basis for industrial mass production of the metal (*see* ALUMINUM: *Production of the Metal*). The next three years were spent perfecting his process and interesting capitalists. In 1888 the Pittsburgh Reduction company (later the Aluminum Company of America) began to manufacture aluminum, and in 1890 Hall was made its vice-president. The invention made aluminum a common article of commerce, for which new uses continue to be found. Hall's death occurred in Daytona Beach, Fla., on Dec. 27, 1914. The fortune resulting from his invention was bequeathed chiefly to educational institutions, Oberlin receiving gifts totaling more than $3,000,000.

See *Memorial Volume to Charles M. Hall* (1915).

HALL, EDWARD (*c.* 1498–1547), English historian whose *Chronicle* was one of the chief sources of Shakespeare's history plays, is said to have been a Londoner by birth. Educated at Eton and at King's college, Cambridge, he became common sergeant of London in 1533 and undersheriff in 1535. He was also member of parliament for Wenlock (1529) and Bridgnorth (1542) in Shropshire. Hall's great work, of which the full title is *The Union of the Two Noble and Illustre Famelies of Lancastre and Yorke,* he bequeathed in manuscript to the printer Richard Grafton, who began to print it in 1547 and published the first edition in 1548 and the second in 1550. The value of the *Chronicle* in its early stages is not great, but it is very considerable for the reign of Henry VIII and its literary quality is higher than that of most chronicles of the time.

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(N. D.)

HALL, GRANVILLE STANLEY (1844–1924), U.S. psychologist, one of the most influential of the pioneers in American psychology, was born at Ashfield, Mass., on Feb. 1, 1844. He did much to give the science of psychology a broad base, directing into the psychological currents of his time the ideas of Charles Darwin, Wilhelm Wundt, Sigmund Freud and others. Hall was the first president of Clark university (1888–1920) and at the same time professor of psychology there. At Clark he established the first institute of child psychology in the United States. Many of the studies issuing from this institute employed the questionnaire method, staunchly advocated by Hall as a psychological tool. One of the first psychological laboratories in the United States was founded by Hall in 1883 at Johns Hopkins university, where he served as lecturer and professor of psychology from 1881 to 1888. He was a leading spirit in the founding of the American Psychological association and its first president (1892). He launched four psychological journals—the *American Journal of Psychology* (1883), the *Pedagogical Seminary* (1891), the *Journal of Applied Psychology* (1915) and the *Journal of Religious Psychology and Education* (1902)—and published 489 works in nearly all the major areas of psychology. Among his most important published works are *Adolescence; Senescence, the Last Half of Life; Youth; The Contents of Children's Minds on Entering School;* and *Founders of Modern Psychology.* A great teacher, Hall had many illustrious students, among them John Dewey, Joseph Jastrow, James McKeen Cattell, Henry Goddard, E. C. Sanford and Lewis Terman. He died at Worcester, Mass., on April 24, 1924.

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(H. L. K.)

HALL, SIR JAMES (1761–1832), Scottish geologist and physicist, the founder of experimental geology, was born at Dunglass on Jan. 17, 1761. He was educated first at Cambridge and then at Edinburgh university, becoming an intimate colleague of James Hutton, whose views with regard to intrusive rocks he demonstrated experimentally. He reproduced by simple fusion and slow cooling the minerals and textures of the original dolerites of his experiments, and in subsequent researches he studied the effect of heat and pressure on calcium carbonate. In these investigations he showed that chalk could be converted into marble comparable with natural examples. The results of his experiments were brought before the Royal Society of Edinburgh and have become classics in the literature of experimental petrology. He was also greatly interested in architecture and during 1807–12 he was M.P. for Michael, Cornwall. He died on June 23, 1832, at Edinburgh.

(C. E. T.)

HALL, JAMES (1793–1868), U.S. author, particularly successful in sketching life in the French settlements of the Illinois country and in interpreting such authentic figures as the backwoodsman, *voyageur* and Indian-hater, was born in Philadelphia, Pa., Aug. 19, 1793. A versatile figure, he was a soldier in the War of 1812, a lawyer and circuit judge, a newspaper and magazine editor, state treasurer of Illinois (1827–1831), a banker in Cincinnati, O., and a writer of history and fiction. During his twelve years in Illinois (1820–1832) he lived at Shawneetown and Vandalia and played an important role in literary and cultural activities. In 1828 he compiled the first western literary annual, the *Western Souvenir,* and he edited the *Illinois Monthly Magazine* (1830–1832) which he continued at Cincinnati until 1836 as the *Western Monthly Magazine.* Much of the material in these periodicals he supplied himself although he consistently encouraged western contributors. He compiled statistical volumes on the steamboating and economic history of the Ohio valley. He died in Cincinnati on July 5, 1868.

Hall wrote an interesting travel book, *Letters from the West* (1828); one novel, *Harpe's Head* (1833); a readable survey of western exploration, *The Romance of Western History* (1857); and several volumes of short stories. Tales like "Pete Featherton" and "A Legend of Carondelet," which find a place in many anthologies, early established Hall as a short-story writer of distinction. His best stories appear in *Legends of the West* (1832) and *Tales of the Border* (1835).

See John T. Flanagan, *James Hall, Literary Pioneer of the Ohio Valley* (1941).

(J. T. FN.)

HALL, JAMES (1811–1898), U.S. stratigraphic geologist and invertebrate paleontologist, was born at Hingham, Mass., on Sept. 12, 1811. He acquired his early education through his own efforts and gained admission to Rensselaer school, later Rensselaer Polytechnic institute, at Troy, N.Y. As a student he collected and identified more than 900 species of plants. He spent his summers and all of his limited finances doing field work. After his graduation in 1832 he became librarian at Rensselaer institute and later in the same year an assistant professor; subsequently he became professor of chemistry, natural science and geology. Stephen Van Rensselaer became interested in Hall and sent him to make

geological explorations in the St. Lawrence valley.

In 1836 he was appointed one of four geologists on the geological survey of the state of New York which had been established just before that time. Although the youngest of the group, his report, *Geology of New York,* part iv (comprising the survey of the fourth district, 1843), has endured with authority as a classic of geological literature.

Eventually Hall became state geologist and director of the Museum of Natural History of Albany. Through various periods when state support was withdrawn from geological work, he carried it on at his own expense and it was only through his sacrifice that the continued publication of the *Palaeontology of New York* (1847–94) was made possible. These volumes, the results of his chief work, contained descriptions of the invertebrate fossils of that state. He was also at one time state geologist of Iowa (1855–58) and of Wisconsin (1857–60).

His publications, dating from 1836, include more than 260 scientific papers and 35 books, dealing with numerous phases of geology and paleontology of the different regions of the United States and Canada, including reports on the geology of Oregon and California (1845), of Utah (1852), Iowa (1859) and Wisconsin (1862). He was a charter member of the National Academy of Sciences and received the Wollaston medal from the Geological Society of London in 1858.

Hall was regarded as a great teacher as well as collector. In his 86th year he journeyed to St. Petersburg to take part in the International Geological congress and then joined the excursion to the Ural mountains. He died at Echo Hill, Bethlehem, N.H., on Aug. 7, 1898.

HALL, JOSEPH (1574–1656), English bishop, moralist, controversialist and satirist, a notable figure in literature in his own right and as the opponent of Milton and of some importance in the history of ideas both as a churchman and as a moral philosopher. He was born at a farm near Ashby-de-la-Zouch, Leicestershire, on July 1, 1574. Destined for the ministry, he was educated, under Puritan influences, at the Ashby school and in 1589 entered Emmanuel college, Cambridge, then a strongly Puritan college. He had a successful academic career; he was elected for two years running to the university lectureship in rhetoric; and he won a name by his two volumes of satires. But he felt called to the active ministry and accepted Sir Robert Drury's offer of the rectory of Hawstead, Suffolk, and took up his duties there on Dec. 2, 1601. Apart from a visit to Belgium (1605) his leisure at Hawstead was spent, he tells us, in "writing books to buy books." His writings brought him to the notice of Prince Henry and he was appointed a domestic chaplain to the prince and resigned Hawstead (1608) to take up the cure of Waltham Holy Cross, Essex. While absent as chaplain to an embassy to France (1616) he was made dean of Worcester, and on his return he accompanied King James on the visit to Scotland in 1617. He was one of the representatives of the king at the synod of Dort (1618). Consecrated bishop of Exeter on Dec. 23, 1627, he was repeatedly suspected of Puritan leanings by Archbishop Laud, but accepted Laud's suggestion to write *Episcopacy by Divine Right* (publ. 1640) against Puritan attacks on episcopacy. In 1641 he engaged in pamphlet controversy with Puritan opponents. On Nov. 15, 1641, he was translated to the bishopric of Norwich but was for four months imprisoned with the other bishops in the Tower of London before he went to his new see. Deprived of most of his episcopal revenues in 1643 he was finally ejected from his palace and retired to a small house at Higham, near Norwich, where he lived until his death on Sept. 8, 1656.

As a man of letters Hall is remarkable for his versatility and his innovations. The *Contemplations* (151 meditations on the moral and spiritual implications of biblical stories; 1612–26) are not perhaps especially original except for their "Senecan" prose—a clear, curt, pointed style of which Hall was one of the foremost English practitioners, though he could use a full, sonorous style on occasion. In other literary forms, however, he was a pioneer. Although he was not the first to write formal satire in English, his *Virgidemiarum. Six Books* ("six books of harvests of rods") are the first English volumes of satire successfully modeled on Latin satire. The first three books, of "toothless satires" (1597), deal with the defects of contemporary literature, abuses in the professions and ostentation in social life. The last three books, of "biting satires" (1598), deal with graver social, moral and economic evils. Although much of his material is derived from books, Hall's work is lively and original. The satire is sharply and often wittily pointed; the couplets, often balanced and enclosed, anticipate the satiric heroic couplets of Dryden; and the pictures of Elizabethan life are vivid and striking. The satires were immediately popular and inaugurated a series of satirical books of which the most notable were John Marston's.

Hall was certainly the first to emulate Theophrastus in English when he published (1608) a volume of *Characters of Vertues and Vices* (pithy and witty delineations of such types as "The Flatterer" or "The Good Magistrate"), and he claimed to be an innovator with his volumes of *Epistles* imitating Seneca's *Moral Epistles.* Original and entertaining also, in spite of Milton's scorn for it, is Hall's Latin satire, *Mundus Alter et Idem* (*c.* 1605). An early example of the imaginary voyage, it is influenced by Rabelais, and itself influenced Swift's *Gulliver's Travels.* Finally, beginning with *Meditations and Vows Divine and Moral* (1605), Hall continued to write meditations for the rest of his life, and here too he showed the way to later writers, enriching the manner and extending the scope of the meditation.

His clash with Milton began in 1641, when, in reply to Hall's *Defence* against "Smectymnuus" (a name made up of the initials of the Puritan divines who had attacked his *Humble Remonstrance to the High Court of Parliament*), Milton wrote *Animadversions.* This provoked a writer on Hall's side (perhaps his son) to turn (in *A Modest Defence*) Milton's technique of unpleasant imputation upon Milton himself, thus stinging Milton into *An Apology* (1642), containing even worse invective, but also precious passages of autobiography. In this Anglican-Puritan conflict, Hall was a moderate, pleading for unity among fellow Christians and for a brotherly tolerance in place of embittered strife about nonessentials. He did not appreciate how strong in such Puritans as Milton was the passion for individual liberty of speech and religious thought, he was bewildered by their readiness to reject established authority and he did not share their confidence in the ability of the common man to govern a church or to extemporize prayer worthy of public worship; but he was prepared, in the interests of peace, to make compromises on church government and on liturgy.

As a moral philosopher Hall achieved a European reputation for his Christianization of Stoicism and became widely known as "the English Seneca" and "the Christian Seneca." In a series of works beginning with *Heaven upon Earth* (1606) he expounded a neo-Stoicism by which men might achieve "true Peace, and Tranquillity of mind." This, discarding the pagan elements of Stoicism, adds to the philosophy of Seneca the Christian doctrines of Grace and Redemption and the efficacy of Faith.

Hall's satires and *Contemplations* were read and appreciated throughout the 18th and 19th centuries; in the 20th century scholars took an increasing interest in his moral and meditative work and in his place in the development of English prose.

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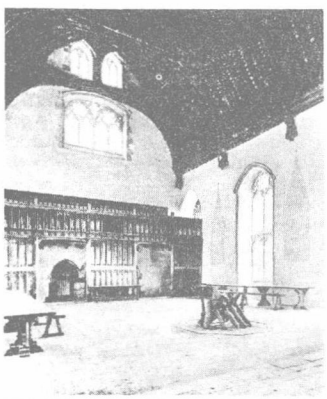
HALL, MARSHALL (1790–1857), English physiologist, founder of the theory of reflex actions, was born on Feb. 18, 1790, at Basford, near Nottingham, the son of a cotton manufacturer. He studied medicine at Edinburgh and became resident house phy-

sician to the Royal infirmary there. This appointment he resigned after two years to visit the medical schools of Paris, Berlin and Göttingen. He then settled at Nottingham, where he became physician to the General hospital, and in 1826 removed to London. Hall's principal works are: *Diagnosis* (1817); *Mimoses* (1818), on the disease states designated as bilious, nervous, etc.; *Observations on Blood-Letting* (1830); and *Experimental Essay on the Circulation of the Blood in the Capillary Vessels* (1831), in which he showed that the blood vessels intermediate between arteries and veins bring the blood into contact with the tissues. His most important work in physiology was concerned with the theory of reflex action, embodied in a paper "On the Reflex Function of the Medulla Oblongata and the Medulla Spinalis" (1832), supplemented in 1837 by another "On the True Spinal Marrow, and the Excito-Motor System of Nerves." He died at Brighton on May 11, 1857.

HALL, ROBERT (1764–1831), English Baptist clergyman and an outstanding preacher, was born on May 2, 1764, at Arnesby, near Leicester, where his father, Robert Hall (1728–91), was pastor of a Baptist congregation. Ending his studies at Aberdeen university he became classical tutor at the Baptist academy, Bristol. In 1790 he became pastor of a church at Cambridge, where he remained for 15 years and made a great reputation for his fine, often outspoken sermons. He advocated freedom of the press, was influenced by the French Revolution to speak against corrupt government and in 1791 supported the reformer and scientist Joseph Priestley against hostile public opinion.

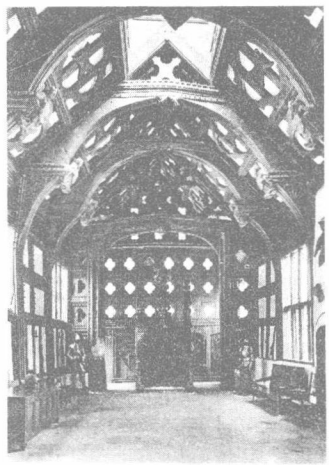
HALL, a meeting place, entry, or passageway, ranging in size from a large reception room in a public building to a corridor or vestibule of a house. For the feudal society of medieval Europe, the hall was the centre of all secular activities. Originally it was used for cooking and sleeping by large groups of people, as well as for the activities it still shelters when it is used as courtroom, banquet room, or place of entertainment. Beginning as a rectangular, barnlike structure, the hall probably evolved from the prehistoric wood-framed tribal dwellings of northern Europe. Early examples had much in common with contemporary churches, employing a rhythmic structural system of three or more bays. The larger halls were divided by two rows of posts or stone columns into a nave and aisles. The rough stones of the fireplace were set near the centre of an earth floor strewn with an unsanitary layer of rushes to provide insulation. Smoke found its way out through the open roof framing at the gable ends or by means of a louver, near the centre of the ridgepole, protected by a wooden turret. The doors were opposite the end of the building reserved for the lord and his family. Eventually this area was distinguished by a low platform or dais, and a partial ceiling was brought forward the full width of the end wall behind it to form a canopy overhead. Dating from the 12th century, the remains of the bishop's palace at Hereford and the timber roof at Leicester castle are probably the oldest surviving fragments of gabled feudal halls.



FROM CHRISTOPHER HUSSEY'S "ENGLISH COUNTRY HOUSES OPEN TO THE PUBLIC" (1951), REPRODUCED BY PERMISSION OF COUNTRY LIFE, LTD., LONDON

INTERIOR OF THE GREAT HALL OF PENSHURST PLACE, KENT, ENGLAND; ABOUT 1341

As a defense against marauders halls were placed to take advantage of terrain and were often protected by moats or palisades. In Norman castles and English border fortresses the hall was part of the principal stone tower, built over a vaulted storage room with wooden beams supporting rooms above. Until the 14th century the medieval town house consisted of an undivided all-purpose living room, or hall, over a street-level shop area. In the country the hall began to evolve into the manor house in the 13th century as smaller rooms were added at the ends of the great central space. A low structure was built against the end wall for cooking and storage of supplies.



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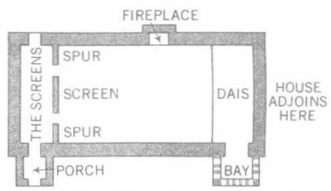
RUFFORD OLD HALL, LANCASHIRE, ENG.; EARLY TUDOR

A centre door leading to the kitchen was flanked by the hatches or doors to the pantry and buttery. As the outside doors were placed opposite each other in the long walls at this end, a passageway was formed which was provided with porches and wooden screens to protect the rest of the hall from drafts. Behind the dais a two-story structure was annexed with a solar or private room over a storage basement accessible from it. The solar was entered from an outside ladder or stair and communicated with the hall by means of a window or peepholes. Later, more secure conditions and the desire for privacy and for more easily heated rooms led to the development of living quarters on the lower floor, with entrances directly into the hall. As the end structures were extended they were linked with scattered service buildings and the gatehouse to form courts on one or both of the long sides of the hall.

From the 14th century halls were built with uninterrupted interiors spanned by great timber roofs. The aisled type was retained only in monastic hospitals where it was convenient to continue to place beds in the side bays. At Westminster hall the Norman interior supports were removed and a hammerbeam roof (*q.v.*) installed. A series of halls in northwestern England retained only the pair of columns nearest the doors to support a great wooden arch and light wooden screen walls blocking the aisles. A large freestanding screen like that at Rufford Old hall provided further protection from drafts. But the typical 15th- or 16th-century hall was entered through doors in a screen structure that terminated in the ornamented parapet of a musicians' gallery installed over the low passageway ceiling. The large fireplace and its chimney were built into a side wall. The dais was extended at one or both ends to provide a large bay which from the exterior appeared to balance the porch. It had full-length mullioned windows supplementing the traditional openings high in the side or end walls. With the development of the separate dining room and the decline of the old social order at the end of the middle ages began the descent of the hall in domestic architecture to its present status of entrance and passageway. However, towns, guilds, colleges and other organizations built halls rivaling those of the barons. The names of many public buildings reflect the fact that a ceremonial reception room is their major feature.



FROM HUGH BRAUN, "AN INTRODUCTION TO ENGLISH MEDIAEVAL ARCHITECTURE" (1951); REPRODUCED BY PERMISSION OF FABER & FABER, LTD.

LATE MEDIEVAL BANQUET HALL

BIBLIOGRAPHY.—Hugh Braun, *An Introduction to English Mediaeval Architecture* (1951); Frederick H. Crossley, *Timber Building in England* (1951); Christopher Hussey, *English Country Houses Open to the Public* (1951). (S. W. J.)

HALLADJ, AL- (ABU AL-MUGHITH AL-HUSAIN IBN MANSUR IBN MAHAMMA AL-BAIDAWI, known in Persian, Turkish, Indian and Javanese literature by the abridged version of MANSUR) (*c.* 857–922), celebrated Muslim mystic and thinker, was born in Persia, at Tur, near Baida and Shiraz, but taught in Arabic. He led the adventurous, wandering life of a seeker for true knowledge and an apostle of religious unity of creed. He made the pilgrimage to Mecca three times and to Jerusalem once. In Baghdad he became the spiritual director of high functionaries at the Abbasid court, and later was prosecuted as an alleged follower of the revolutionary party of the Isma'ili Karmatians (*q.v.*). He was imprisoned for eight years between two trials and finally was condemned for

teaching the validity of "spiritual pilgrimage" to God, as to a friend inside the heart or as to the innermost true personality of man, summed up in the saying *Ana al-haqq* ("I am the Creative Truth"). He was executed in Baghdad on March 26, 922.

His excommunication by Muslim lawyers was never fully recognized, and he has been rehabilitated by independent thinkers such as Daylami, al-Ghazzali and Ibn 'Aqil, and by viziers in power, such as Ibn al-Muslima; and lauded by such prominent mystics as Kilani, Ruzbehan Baqli, Fakhr Farisi, Farid ud-din 'Attar and Jalal-ud-din Rumi. Al-Halladj seems to have been a *shuhudi* (believer in testimonial monism) rather than a *wujudi* (believer in existential monism, such as Ibn 'Arabi). According to Mohammed Iqbal (d. 1938), he was a kind of Promethean, or even Nietzschean, personality.

See L. Massignon (ed.), *Akhbar al-Hallaj,* 3rd ed. (1957). (Lo. M.)

HALLAM, the name of a family of Anglo-U.S. actors and theatrical managers associated with the beginnings of the professional theatre in America. LEWIS HALLAM (1714–1756) was sent to the American colonies by his brother, WILLIAM HALLAM, manager of a London theatre. With Lewis Hallam were his wife, MRS. SARAH HALLAM, and their son, LEWIS HALLAM (1740–1808). Their first appearance in the new world was at Williamsburg, Va., where, on Sept. 15, 1752, they presented *The Merchant of Venice.* This production marked the first appearance of a professional acting company in the American colonies. The following year they built the first theatre in New York city. After the elder Lewis Hallam died the company re-formed under David Douglass, whom Mrs. Hallam married. It was in this company that Lewis Hallam the younger first became a leading man. In 1775 the war forced them into temporary retirement in Jamaica. Ten years later the company returned under the leadership of Lewis Hallam, Mrs. Hallam having died and David Douglass having retired. For the next 25 years the younger Hallam managed and acted with various companies throughout the United States. He was an accomplished actor but was known as a quarrelsome manager. He died in Philadelphia in 1808. ISABELLA HALLAM (1746–1826), a daughter of the elder Lewis Hallam, was, as Mrs. Mattocks, a well-known actress in England. (S. W. H.)

HALLAM, HENRY (1777–1859), English historian, best known for his authoritative *Constitutional History of England* (1827), was born at Windsor, Berkshire, on July 9, 1777. He was educated at Eton and at Christ Church, Oxford, and after graduating in 1799 was called to the bar. The inheritance of an estate in Lincolnshire in 1812, and his appointment to the sinecure of commissioner of stamps enabled him to devote himself to historical study. His first important work, *The View of the State of Europe During the Middle Ages* (1818; supplementary notes, 1848), traces the history of France, Italy, Spain, Germany and the Greek and Saracenic empires and devotes chapters to the development of the feudal and ecclesiastical systems and the free political system of England. The *Constitutional History* covers the period from Henry VII's accession to that of George III and shows Hallam's wide knowledge and conscientious handling of evidence, but it is somewhat marred by his tacit assumption that the 19th-century theory of the Constitution was the right one for previous centuries. His *Introduction to the Literature of Europe During the 15th, 16th and 17th Centuries* (1837–39) shows a similar range and desire for accuracy. Hallam was rewarded by George IV in 1830 when, together with Washington Irving, he received a medal for historical eminence. Throughout his life he was a sincere Whig supporter and an advocate of the abolition of the slave trade. He died at Penshurst, Kent, on Jan. 21, 1859. His son, Arthur Henry Hallam (d. 1833) is the A.H.H. of Tennyson's *In Memoriam.*

HALLAM, ROBERT (d. 1417), bishop of Salisbury and English representative at the council of Constance, was educated at Oxford and was chancellor of the university from 1403 to 1405. In the latter year the pope nominated him to be archbishop of York, but the king objected. In 1407, however, he was consecrated by Gregory XII at Siena as bishop of Salisbury. At the council of Pisa in 1409 he was one of the English representatives. On June 6, 1411, Pope John XXIII made Hallam a cardinal, but there was some irregularity and his title was not recognized. At the council of Constance (*q.v.*), which met in Nov. 1414, Hallam was the chief English envoy. In the discussions that led up to the deposition of John XXIII he had a leading share. With the trials of John Huss and Jerome of Prague he had less concern. Under King Henry V's direction, he gave the emperor Sigismund vigorous support in the endeavour to secure a reform of the church, before the council proceeded to the election of a new pope. Hallam died suddenly, on Sept. 4, 1417.

HALLAND, a *län* (county) of southern Sweden, lies on the west of Småland and on the shores of the Kattegat. Pop. (1960) 170,060. Area 1,904 sq.mi. The *län* extends for 100 mi. north-to-south but does not reach inland more than 30 mi. It is crossed by the Viska, Ätra, Nissa and Laga rivers which, although short, descend sharply from the Småland plateau and were early exploited for hydroelectricity. The narrow coastal plain of fertile clays between granite outcrops is used by rail and road routes between Göteborg and Malmö. The county town, Halmstad, is the only centre with a population over 20,000, although Laholm, Falkenberg, Varberg and Kungsbacka all date back to medieval times. There are brick, tile and engineering works. The coast line is smooth with few anchorages. (A. D. O'D.)

HALLÉ, SIR CHARLES (originally CARL HALLE) (1819–1895), German-born English pianist and conductor, founder of the Hallé orchestra, was born at Hagen, Westphalia, on April 11, 1819. He studied at Darmstadt and in Paris, where he assumed the French form of his name and became friendly with Chopin, Liszt and Berlioz. He married Désirée Smith de Rilieu in 1841. In Paris he gave chamber concerts, but the revolution of 1848 drove him to England where he settled in Manchester, at first as a pianist and teacher. In 1850 he was appointed conductor of the Gentlemen's concerts and in 1858 he began to give regular concerts with the orchestra he had formed for the Art Treasures exhibition the previous year. This was the beginning of the famous Hallé orchestra, whose conductor he remained for the rest of his life. He also conducted opera and concerts in other cities and for many years gave piano recitals in London. In 1888 he was knighted and in the same year he married the Czech violinist Wilma Norman-Neruda (1839–1911). He was the first principal of the Royal Manchester College of Music, which was founded, largely through his efforts, in 1893. He died in Manchester on Oct. 25, 1895.

See C. E. and Marie Hallé, *Life and Letters of Sir Charles Hallé* (1896); C. Rigby, *Sir Charles Hallé* (1952). (H. RU.)

HALLE (known as HALLEANDER SAALE to distinguish it from the small town of Halle in North Rhine-Westphalia), a city of Germany which after partition of the nation following World War II was located in the German Democratic Republic. It is the chief town of a district (*Bezirk*) of the same name and lies 361 ft. above sea level in a sandy plain on the right bank of the Saale river, which there divides into several arms, 21 mi. N.W. from Leipzig. Pop. (1961 est.) 276,191.

Halle is first mentioned as a fortress erected on the Saale in 806. In 968 Halle, with its valuable saltworks, was given by the emperor Otto I to the newly founded archdiocese of Magdeburg, and in 981 Otto II gave it a charter as a town. From the first there were separate jurisdictions for the *Halloren* (or "saltworkers") and the German settlers in the town. The conflict of interests and jurisdictions led to the usual internecine strife during the middle ages, and both groups resisted the pretensions of the archbishops. In the 13th and 14th centuries Halle was a member of the Hanseatic league (*q.v.*). Its liberty perished, however, as a result of the internal feud between the democratic guilds and the patrician owners of the saltpans. In 1478 a demagogue member of the town council, with his confederates, opened the gates to the soldiers of the archbishop. The townsmen were subdued, and to hold them in check the archbishop built the castle of Moritzburg. Notwithstanding the efforts of the archbishops of Mainz and Magdeburg, the Reformation found an entrance into the city in 1522. After the peace of Westphalia in 1648 the city was passed to the house of Brandenburg.

Its situation at the junction of railway lines from Berlin, Breslau, Leipzig, Frankfurt am Main, the Harz country and Hanover has developed the commercial and industrial importance of Halle.

It consists of the old, inner town and two small towns, Glaucha in the south and Neumarkt in the north. The centre of the town is occupied by the market square, on which stand the medieval town hall (restored in 1883) and the Gothic Marienkirche, dating mainly from the 16th century, with two towers connected by a bridge. In the square is a bronze statue of Handel, the composer, a native of Halle. Among the churches the St. Moritzkirche, dating from the 14th century, with fine wood carvings and sculptures, and the cathedral (belonging since 1689 to the Reformed or Calvinist Church), built in the 16th century, are worthy of note. The castle of Moritzburg, formerly the residence of the archbishops of Magdeburg, was destroyed by fire in the Thirty Years' War, with the exception of one wing. The university was founded by the elector Frederick III of Brandenburg (afterward king of Prussia) in 1694, was closed by Napoleon in 1806 and again in 1813, but in 1815 was re-established and united with the University of Wittenberg. It has long been recognized as one of the principal seats of Protestant theology.

The industries of Halle include sugar refining, machine building, printing, dyeing and coal mining (soft brown coal) and the manufacture of spirits, malt, rubber, cement, paper, chicory and petroleum products.

During World War II Halle was taken by U.S. forces on April 19, 1945, after four days of street fighting, during which it suffered much damage. It was included in the Soviet occupation zone, prior to the establishment of the German Democratic Republic in 1949.

HALLECK, FITZ-GREENE (1790–1867), U.S. poet, was a leading member of the Knickerbocker group, and known both for his satirical and romantic verse. He was born at Guilford, Conn., July 8, 1790, and died there Nov. 19, 1867. He was an employee in various New York city banks, including that of John Jacob Astor. In collaboration with Joseph Rodman Drake he contributed the satirical "Croaker Papers" to the *New York Evening Post* in 1819, and on the death of his friend he wrote the moving tribute beginning "Green be the turf above thee." *Fanny* (1819), his longest poem, was a satire on social climbers. Other popular favourites were the feudal romance "Alnwick Castle" (1822), "Burns" (1822, publ. 1827), the often recited "Marco Bozzaris" (1823, publ. 1825), "Red Jacket" (1828) and "Young America" (1865). Strongly influenced by Scott and Byron, he was a poet of slight but genuine gift.

His *Life and Letters* by J. G. Wilson appeared in 1869. His *Poetical Writings* were edited by Wilson in the same year. *See* also N. F. Adkins, *Fitz-Greene Halleck* (1930).

HALLECK, HENRY WAGER (1815–1872), U.S. general and jurist, was born at Westernville, Oneida county, N.Y., in 1815. Upon graduation from the U.S. Military academy in 1839 he was commissioned in the engineers, and in 1844 he was sent by the government to visit the principal military establishments of Europe. After his return, Halleck delivered a course of lectures on the science of war, published in 1846 under the title *Elements of Military Art and Science,* a later edition of which was widely used as a textbook by volunteer officers during the American Civil War. On the outbreak of the Mexican War in 1846, he served with the expedition to California and the Pacific coast, acting for several years in California as a staff officer, and as secretary of state under the military government, and in 1849 he helped to frame the state constitution of California. In 1854 Captain Halleck resigned his commission and took up the practice of law with great success. On the outbreak of the Civil War he returned to the army as a major general, and in Nov. 1861 he was charged with the supreme command in the western theatre of war.

There can be no doubt that his administrative skill was mainly instrumental in bringing order out of chaos in the hurried formation of large volunteer armies in 1861, but the strategical and tactical successes of the following spring were due rather to the skill and activity of his subordinate generals, Grant, Buell and Pope, than to the plans of the supreme commander. In July, however, he was called to Washington as general in chief of the armies. At headquarters his administrative powers were conspicuous, but he proved to be utterly wanting in any large grasp of the military problem; the successive reverses of McClellan, Pope, Burnside and Hooker in Virginia were not infrequently traceable to the defects of the general in chief. In March 1864 Grant was appointed to replace him, Halleck becoming chief of staff at Washington. This post he occupied with credit until the end of the war. Halleck's position as a soldier is easily defined by his uniform success as an administrative official, his equally uniform want of success as an officer at the head of large armies in the field, and the popularity of his theoretical writings on war. While his interference with the dispositions of the commanders in the field was often disastrous, his services in organizing and instructing Union forces were of high value. He died at Louisville, Ky., Jan. 9, 1872.

Besides *Military Art and Science,* Halleck wrote *Bitumen, Its Varieties, Properties and Uses* (1841); *The Mining Laws of Spain and Mexico* (1859); *International Law* (1861; new ed., 1908); and *Treatise on International Law and the Laws of War, Prepared for the Use of Schools and Colleges,* abridged from the larger work. He translated Jomini, *Vie politique et militaire de Napoléon* (1864) and De Fooz, *On the Law of Mines* (1860).

HÄLLEFLINTA (a Swedish word meaning "rock flint"), a white, gray, yellow, greenish or pink fine-grained rock found in Scandinavia consisting of an intimate mixture of quartz and feldspar. Many examples are banded or striated; others contain porphyritic crystals of quartz which resemble those of the felsites and porphyries. Mica, iron oxides, apatite, zircon, epidote and hornblende may also be present in small amounts. The more micaceous varieties form transitions to granulite and gneiss. Hälleflinta under the microscope is very finely crystalline, or even cryptocrystalline, resembling the felsitic matrix of many acid rocks. It is essentially metamorphic and occurs with gneisses, schists and granulites, especially in the Scandinavian peninsula, where it is regarded as being very characteristic of certain horizons. Of its original nature there is some doubt, but its chemical composition and the occasional presence of porphyritic crystals indicate that it has affinities to the fine-grained acid intrusive rocks. In this group there may also have been placed metamorphosed acid tuffs and a certain number of adinoles (shales, contact-altered by intrusions of dolerite). The assemblage is not a perfectly homogeneous one and includes both igneous and sedimentary rocks, but the former preponderate. Rocks very similar to the typical Swedish hälleflintas occur in the Tirol, Galicia and eastern Bohemia.

HALLEL, a Jewish liturgical term designating Ps. cxiii–cxviii, as read in synagogue services on festive occasions. The theme is faith in and gratitude for divine providence. These hymns or psalms were recited by the Levites in the services of the Jerusalem Temple, probably with the refrain "Hallelujah" ("Praise ye the Lord"). Later the term meant Ps. cxxxvi, used in the daily morning service. In modern times the Hallel is often recited in English antiphonally.

See S. Singer and I. Abrahams, *The Authorised Daily Prayer Book* (1922).

HALLER, ALBRECHT VON (1708–1777), Swiss anatomist and physiologist, notable for, among many other contributions, his conceptions of the nature of living substance and of the action of the nervous system, was born at Bern on Oct. 16, 1708. Prevented by ill-health from joining in sports, he developed an amazing precocity. He studied medicine at Tübingen under Camerarius, and then at Leiden under Boerhaave and Albinus, graduating in 1727 with a thesis that proved the so-called salivary duct to be merely a blood vessel. After visiting London, Oxford and Paris, in 1728 he went to Basel, where the awakening of his interest in botany led him to begin a collection of plants which was afterward the basis of his great work on Swiss vegetation. About the same time he wrote his poem "Die Alpen," included in the first edition of his *Gedichte* (1732).

In 1730 Haller began to practise as a physician in Bern, but the fame of his botanical and anatomical researches led to his appointment, in 1736, to the chair of medicine, anatomy, surgery and botany in the newly founded University of Göttingen. He held this post for 17 years, conducting at the same time a monthly journal (the *Göttingische gelehrte Anzeiger*), to which he is said to have contributed about 12,000 articles on almost every branch of knowledge. In 1753 Haller resigned his chair and returned to Bern,

where he prepared his *Bibliotheca medica,* the botanical, surgical and anatomical parts of which he lived to complete; wrote three philosophical romances, *Usong* (1771), *Alfred* (1773) and *Fabius and Cato* (1774), expounding his views on various types of government; produced among other medical works, the justly famed *Elementa physiologiae corporis humani* (1757–66); and fulfilled various municipal and state duties. Haller died in Bern on Dec. 12, 1777.

Among Haller's most important contributions to medicine may be named his recognition of the mechanism of respiration and the automatism of the heart; his admission of the use of bile in the digestion of fat; his descriptions of the development of the embryo; his work on the anatomy of the organs of generation, of the brain, of the heart and of many imperfectly known arteries; and above all his classification of the bodily parts as sensible and insensible, irritable and nonirritable, together with his noteworthy demonstration that sensibility and irritability are independent, the former being a property of tissues endowed with nerves, the latter a peculiarity of all muscular tissue, independent of the nerves proceeding to it and surviving in severed parts.

Apart from the works mentioned above, Haller's chief writings are *Enumeratio methodica stirpium Helveticarum* (1742); *Icones anatomicae* (1743–54); *Disp. anatomicae Selectiores* (1746–52); *De respiratione experimenta anatomica* (1747); *Opuscula botanica* (1749); *Opuscula pathologica* (1754); an edition of Boerhaave's *Artis medicae principia* (1769); and *Disp. chirurg. collectio* (1777).

See J. G. Zimmermann, *Das Leben des Herrn von Haller* (1755); and the detailed biography in L. Hirzel's edition of the *Gedichte* (1882).

HALLEY, EDMUND (1656–1742), English astronomer who observed the comet of 1682 now called by his name, was born in London on Oct. 29, 1656, and was educated at St. Paul's school, London, and at Queen's college, Oxford. His first paper, concerning planetary orbits, was published in the *Philosophical Transactions* of the Royal society in 1676. He formed a friendship with John Flamsteed, who had been appointed astronomer royal in the preceding year, and was often in his company, helping him and Robert Hooke to design and construct the Greenwich observatory. Halley also assisted Flamsteed in his observations. Influenced by Flamsteed's great project of forming an accurate catalogue of northern stars, Halley proposed to do the same in the south, and obtaining an introduction, through Charles II, to the East India company, he left Oxford without a degree in Nov. 1676, and sailed to St. Helena in a ship of that company. At St. Helena he catalogued more than 300 stars, observed a transit of Mercury (Nov. 7, 1677) and made numerous pendulum observations. He also named a new constellation, Robur Carolinum, in honour of Charles II, but this is no longer recognized by celestial cartographers.

Upon his return to England in 1678 he was granted the degree of M. A. by the University of Oxford and began a friendship with Sir Isaac Newton, which resulted in his publication, at his own expense, of Newton's *Principia.* This work's debt to Halley was well expressed by Augustus De Morgan: ". . . but for him, in all human probability, that work would not have been thought of, nor when thought of written, nor when written printed." Halley calculated the orbit of the comet of 1682, and his correct prediction of its return in 1758 was the first application of Newton's laws of motion.

His work on comets involved the calculation of orbits for all those for which sufficient observations existed, and, as well as making the important discovery that some comets are periodic, he noticed that their orbital planes are distributed at random, in sharp distinction to those of the planets. Under instructions from the admiralty he commanded the war sloop "Paramour Pink" from 1698 to 1700 on the first sea voyage undertaken for purely scientific purposes and again in 1701 during a survey of tides in the English channel. In 1703 Halley was appointed Savilian professor of geometry at Oxford and in 1720 he succeeded John Flamsteed as astronomer royal. Although then in his 64th year, he undertook to observe the moon through an entire revolution of its nodes (18 years), and actually carried out his purpose. Halley also detected the proper motions of the stars (1718), the acceleration of the moon's mean motion (1693) and the long inequality of Jupiter and Saturn. He indicated first in 1679 and again in 1716 a method extensively used in the 18th and 19th centuries for determining the solar parallax by means of the transits of Venus. He died at Greenwich on Jan. 14, 1742.

As an observational astronomer Halley was much inferior to Flamsteed and his astronomical observations remained largely unreduced and unpublished. His genius lay in discussing large bodies of data and reducing them to some kind of order. His *Breslau Table of Mortality,* published in 1693, is one of the first attempts to found tables of annuities on a basis of fact. He was the originator of graphical methods of representing on maps the geographical distribution of the physical features of the earth; the first meteorological chart appeared in 1688 and the first magnetic chart in 1701. The magnetic charts, constructed from all available observations augmented with many of his own made in England and on sea voyages, were of great practical value and were used for many years after his death.

Halley's principal works are *Catalogus stellarum Australium* (1679), the substance of which was embodied in the third volume of Flamsteed's *Historia coelestis* (1725); *Synopsis astronomiae cometicae* (Eng. trans., *A Synopsis of the Astronomy of Comets,* 1705); *Astronomical Tables* (1752); and 81 papers scattered through the *Philosophical Transactions* of the Royal society. To these should be added an edition of the *De sectione rationis* (1706) and the *Libri conicorum* of Apollonius of Perga (1710). Two books of the *De sectione rationis* and three of the *Libri conicorum* were known only in Arabic and Halley, after learning this language for the purpose and with some help from an Arabic scholar, produced a translation including a restitution of some passages in which the Arabic text was corrupt. One lost book was restored from a summary given by Pappus and from references to it elsewhere in Apollonius. Halley also edited an unauthorized version of Flamsteed's *Historia coelestis* in 1712.

See also references under "Halley, Edmund" in the Index volume.

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HALLGRÍMSSON, JÓNAS (1807–1845), one of the greatest and most popular poets of Iceland, was born on Nov. 16, 1807, at Hraun in Öxnadalur in the north of the country. He began his education at the school of Bessastadir, near Reykjavík, from which he graduated to the University of Copenhagen in 1829. He first studied law and afterward turned to science and literature. Hallgrímsson returned to Iceland in 1837 and engaged in scientific research in the island with the support of the Danish government until 1842. He then returned to Copenhagen, to remain in Denmark until his death on May 26, 1845.

Valuable as was Hallgrímsson's work as a scientist, he is remembered chiefly as a poet. His poetry is predominantly lyrical, and he excels in descriptions of Icelandic scenery. He greatly admired the romantic poets, especially Heinrich Heine, and adapted and translated much foreign poetry into Icelandic. Hallgrímsson's interest in romantic poetry led him to revolt against and criticize the *rímur,* narrative poems in traditional, artificial form, composed in stereotyped metres and phrases, which had long been popular in Iceland. He strove to purify and to simplify the language of poetry as Wordsworth did in England. Hallgrímsson's poetry is filled with patriotism and with a love of nature, and some of it was inspired by stories of ancient Icelandic heroes as well as by the *Edda* and other medieval poetry.

Much of Hallgrímsson's poetry was published in the periodical *Fjölnir,* which he, together with other Icelandic students, founded in Copenhagen in 1835. He was also the author of critical works and of short stories in prose, some of which were published in *Fjölnir* after his death.

See the complete works of Hallgrímsson, published under the title *Rit,* 5 vol. (1929–36); also Richard Beck, *History of Icelandic Poets, 1800–1940* (1950). (G. T.-P.)

HALLMARK is a series of symbols stamped on an article of gold or silver to denote that it conforms to one of the legal standards. These standards define the maximum proportion of base metals which may be alloyed with pure gold or silver for hardening or other purposes. The presence of a hallmark on an article indicates that it has been sampled and tested at an authorized assay office. Most articles are required by law to be hallmarked before sale, although there are certain exemptions (*e.g.*, gold rings other than mourning or wedding rings).

Hallmarking in Great Britain dates from the reign of Edward I. A statute of 1300 provided that no gold or silver should be sold until tested by the "Gardiens of the Craft" and struck with the leopard's head. The London Guild of Goldsmiths (later the Worshipful Company of Goldsmiths) has since that date been responsible for the assay and marking of plate in London. The word hallmark means literally a mark applied at Goldsmiths' hall. There are now also assay offices at Birmingham, Chester, Sheffield, Edinburgh and Glasgow. (J. S. Fs.)

In the United States, there are no hallmarks on silver or gold objects, since there is no history of guild or government regulation comparable to that of Great Britain. Local regulatory practices were established in New York, Boston, Mass., Baltimore, Md., and elsewhere in the late 18th and early 19th centuries, but no consistent system of symbols was adopted. Maker's marks appear, usually consisting of the initials or name of the maker. Beginning in the early 19th century the words coin (900 parts fine silver to 100 parts alloy) and sterling (925 parts fine silver to 75 parts copper) were stamped on silver objects and in 1906 the use of the words became subject to federal regulation. The purity of gold is given in carats, pure gold being 24 carats; its marking is also subject to federal regulation. (X.)

MARKS ON SILVER

The history of the symbols making up a complete hallmark on modern silver (fig. 1) is as follows.

Town or Assay Office Mark.—The leopard's head, first known as the king's mark, indicated that a silver article was of sterling standard; *i.e.*, containing at least 92.5% fine silver. When the lion passant was introduced as the standard mark (*see* below), the leopard's head was retained as the London town mark. In 1478 a crown was added (*see* fig. 2); but since 1821 the head has remained uncrowned. Provincial offices, when subsequently recognized, had their own distinctive town marks (fig. 3).

Maker's Mark.—This was introduced by a statute of 1363. At first a device was used, examples being a fish, a key or a fleur-de-lis, often taken no doubt from the sign outside the goldsmith's shop. Gradually, it became the practice for the maker to use the initials of his Christian and surnames, either alone or in conjunction with a device.

In 1697, when the Britannia standard was introduced (*see* below), the adoption of the first two letters of the maker's surname was made compulsory. The previous form of mark was revived in 1720 when the sterling standard was restored. The new mark, however, was struck on articles made in the Britannia standard. In 1739 a statute ordered all silversmiths to substitute for their two existing forms of mark a single one with the initials of their Christian and surnames in new characters.

Manufacturers are obliged to register their marks at the assay office to which they submit their wares. The original significance of the maker's mark has been lost to some extent by the occasional use of the registered mark of the subsequent retailer in place of that of the manufacturer.

Date Letter.—The assaying of plate was entrusted to one of the wardens of the London Goldsmiths' company, who held office for one year. It is probable that it was in order to identify the warden responsible for assaying a particular ware that an alphabetical date-letter system was introduced (fig. 4). Such a system is known to have existed as early as 1478. The letter was changed annually and, on completion of one alphabet, the character of the letters or the shape of the surrounding shield was altered. This practice has been adopted by all British assay offices. The London office uses the alphabet from A to U omitting the J and changes the date letter each May. At the Birmingham, Sheffield and Chester offices, the alphabets selected are of 25 letters; the change is made each July.

The date letter denotes the year of assay and marking, not necessarily that of manufacture, although in most cases these are the same. Occasionally an old ware which has not been previously submitted is sent to be marked so that it can be sold legally.

Standard Mark or Marks.—*Sterling Standard.*—The lion passant (fig. 5[A]) was introduced in 1544 and is used by all the English offices to denote that a silver article is of the sterling standard. At Edinburgh the sterling standard mark is a thistle and at Glasgow a thistle and a lion rampant (fig. 5[B]).

Britannia Standard.—In 1697 the standard of wrought plate was compulsorily raised to 95.84%. This step was taken to prevent silversmiths from melting coins for their raw material. The figure of Britannia and a lion's head erased replaced the lion passant and leopard's head respectively on silver of this standard which was known as Britannia or New Sterling. The higher silver content resulted in a softening of the alloy. Consequently, it proved to be not entirely suitable for domestic plate and in 1720 the old standard was restored together with the former marks. Articles which are made occasionally in the higher standard are struck with the Britannia marks (fig. 5[C]). For this standard the English provincial offices use their normal town marks in conjunction with the figure of Britannia. The Edinburgh and Glasgow offices include the lion's head erased with the figure of Britannia and their own town marks.

Additional Marks.—The following are sometimes found on silver.

Duty Mark.—From 1784 a duty imposed on plate was collected by the assay offices on behalf of the commissioners of customs and excise. To signify that the duty had been paid, a mark consisting of the sovereign's head in profile was struck in addition to the usual symbols. The duty was finally abolished in 1890 (in 1798 in respect of watchcases), the mark then becoming obsolete. Silver of this period therefore normally bears the head of one of the following: George III (fig. 6[A]), George IV, William IV, Victoria (fig. 6[B]).

Silver Jubilee Mark.—A special mark of the crowned heads of King George V and Queen Mary was authorized in 1935 to commemorate their silver jubilee (fig. 6[C]). This was not a compulsory mark but was struck by the assay offices at the manufacturer's request on silverware made in 1933, 1934 and 1935.

Coronation Mark.—A special voluntary mark was authorized by Queen Elizabeth II to commemorate her coronation (fig. 6[D]). It represented the crowned head of the sovereign and was struck on wares bearing the date letter for 1952–53 or 1953–54.

MARKS ON GOLD

The fineness of gold alloys is usually expressed in carats, pure gold being 24 carats. The legal standards for gold plate prior to 1798 were as follows: 1300–1477, 19⅓ carats (80% gold); 1477–1575, 18 carats (75%); 1575–1798, 22 carats (91.66%). The hallmarks used were identical to those on silver. An act of 1798 authorized an additional standard of 18 carats which was marked with a crown and the figure 18. The lion passant continued to be struck on 22-carat gold until 1844 when a crown and the figure 22 were substituted. At Edinburgh a thistle and at Glasgow a thistle and a lion rampant take the place of the crown.

In 1854 lower standards of 15, 12 and 9 carats (62.5%, 50% and 37.5% gold) were permitted. The prescribed marks were the carat figure and its decimal equivalent. In 1932 the 15- and 12-carat standards were abolished in favour of one of 14 carats (58.5%). (*See* fig. 7.)

The maker's mark and town mark on gold wares are the same as for sterling silver except that a York rose replaces the crown at the Sheffield office. The date letter is frequently surrounded by a shield of a different design.

The duty and coronation marks are also to be found on gold.

PROVINCIAL, SCOTTISH AND IRISH MARKS

Provincial.—Under a statute of 1423, York, Newcastle, Lin-

A B C D

FIG. 1.—EXAMPLES OF HALLMARKS ON MODERN SILVER: (A) MAKER'S MARK; (B) TOWN MARK; (C) STANDARD MARK; (D) DATE LETTER

FIG. 2.—LEOPARD'S HEAD (LONDON)

FIG. 4.—DATE LETTER (BIRMINGHAM, 1952-53)

A B C

FIG. 5.—(A) EARLY FORM OF LION PASSANT; (B) STERLING STANDARD MARKS (GLASGOW); (C) MODERN BRITANNIA MARKS (LONDON)

A B C D

FIG. 6.—(A) DUTY MARK (GEORGE III); (B) DUTY MARK (VICTORIA); (C) SILVER JUBILEE MARK (GEORGE V AND MARY); (D) CORONATION MARK (ELIZABETH II)

ASSAY OFFICE	TOWN MARK	
LONDON		LEOPARD'S HEAD (ON STERLING SILVER)
		LION'S HEAD ERASED (ON BRITANNIA SILVER)
BIRMINGHAM		ANCHOR
CHESTER		THREE WHEAT SHEAVES AND A SWORD (CITY ARMS)
SHEFFIELD		CROWN
EDINBURGH		CASTLE
GLASGOW		TREE, BIRD, BELL, FISH AND RING (CITY ARMS)

FIG. 3.—MODERN TOWN MARKS FOR SILVERWARE OF BRITISH MANUFACTURE

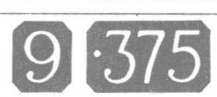
CARAT	PER CENT GOLD	STANDARD MARKS	ASSAY OFFICES
22	91.66		LONDON, BIRMINGHAM, CHESTER, SHEFFIELD
			EDINBURGH
			GLASGOW
18	75.0		LONDON, BIRMINGHAM, CHESTER, SHEFFIELD
			EDINBURGH
			GLASGOW
14	58.5		LONDON, BIRMINGHAM, CHESTER, SHEFFIELD, EDINBURGH, GLASGOW
9	37.5		

FIG. 7.—STANDARD MARKS FOR GOLD WARES IN GREAT BRITAIN

ASSAY OFFICE	TOWN MARK	
LONDON		SIGN OF THE CONSTELLATION LEO
BIRMINGHAM		EQUILATERAL TRIANGLE
CHESTER		ACORN AND TWO LEAVES
SHEFFIELD		SIGN OF THE CONSTELLATION LIBRA
EDINBURGH		ST. ANDREW'S CROSS
GLASGOW		DOUBLE BLOCK LETTER F INVERTED

FIG. 8.—SPECIAL TOWN MARKS FOR FOREIGN WARES IMPORTED BY GREAT BRITAIN

EXAMPLES OF BRITISH HALLMARKS FOR GOLD AND SILVER WARES

coln, Norwich, Bristol, Salisbury and Coventry were allowed to assay and mark plate, although there is no evidence that this was ever carried out in the last two cities. Assay offices existed, however, at Chester, York, Exeter and Newcastle in the 18th and 19th centuries. Offices in Birmingham and Sheffield were opened in 1773, the responsible bodies being "The Guardians of the Standard of Wrought Plate in Birmingham" and "The Guardians of Wrought Plate within the Town of Sheffield."

Marks have been found on antique silver which have been ascribed to other provincial towns; *e.g.*, Barnstaple, Hill, Plymouth and Taunton. Although such pieces are sometimes of great interest, their marks were probably not applied by any recognized office.

Scottish.—An act of 1457 provided for the election in Edinburgh of a deacon to be responsible for controlling the standard. The marks of the maker and deacon were to be stamped on all gold and silver plate. The town mark for Edinburgh, a castle, was added in 1485. In 1681, after a date-letter system had been introduced, the deacon's mark was replaced by the initials of the assay master. This was discontinued in 1759 with the introduction of the thistle as the mark to denote the standard. Plate has been marked in Glasgow since the 17th century but it is improbable that an authorized assay office was established there before 1819. Marks occasionally found on Scottish silver have been attributed to Aberdeen, Arbroath, Dundee, Greenock, Wick, etc.

Irish.—At Dublin a charter of 1637 prescribed a crowned harp mark indicating the standard and a maker's mark. A date letter was also used. These marks became statutory in 1729. The date letter, however, is often missing on Dublin marked silver of the 18th century and an act of 1729 provided primarily for a duty on gold and silver. A further mark consisting of the figure of Hibernia was struck to denote that duty had been paid. In 1807, after the union with Great Britain, the mark of the sovereign's head was added. It was discontinued in 1890 when the plate duty was abolished. The figure of Hibernia has been retained.

The symbols used on gold are the figure of Hibernia, the date letter and the following standard marks: 22 carats, crowned harp; 20 carats, plume of feathers; 18 carats, unicorn's head; 14 carats, "14.585"; 9 carats, "9.375." Irish marks applied after 1922 are not recognized in the U.K.

MARKS ON IMPORTED WARES

Many countries outside the United Kingdom have a system of plate marks but these are not legally recognized in the U.K. Imported foreign wares were first required to be hallmarked by the Customs act, 1842. The importer's mark replaced the maker's mark. The same marks were in use until 1867 when a capital letter F was added. In 1904 distinctive marks were authorized for imported wares (fig. 8). The standard marks consist of the decimal equivalent in the case of silver and the carat figure followed by the decimal equivalent in the case of gold. By the Hall-marking of Foreign Plate act, 1939, wares manufactured abroad more than 100 years before being imported or being sold in the U.K. are exempted from assay and marking.

HALLMARKING PRACTICE AND LAW

Assay Office Procedure.—Manufacturers normally send their wares to an assay office complete except for final polishing. Representative scrapings are taken from every article and accurately assayed by chemical methods. Articles which pass are stamped with the appropriate symbols of the hallmark, but any which are below the lowest standard are required by law to be broken before being returned to the manufacturer. An exception is made in the case of a substandard foreign ware. The importer or owner has the option of exporting such a ware within one month. (*See* ASSAYING.)

Hallmarking Offenses.—Forgery of hallmarks is a felony. On conviction an offender is liable to a maximum penalty of 14 years' imprisonment. Transposition of hallmarks from one ware to another is likewise a felony as is the sale, with guilty knowledge, of wares bearing forged or transposed marks. Where an addition or alteration to a hallmarked article is intended the law requires that it shall be submitted again to an assay office. Additions of base metal are not allowed, nor is it permitted to add gold or silver of a lower standard than the original ware.

The sale or offering for sale or export of a ware that has not been hallmarked, unless it has been specifically exempted, is an offense, the penalty for which is a fine. Foreign wares, if imported by a dealer, must be hallmarked at the time of entry into the country by arrangement with the customs authorities. The obligation is waived in the case of a private person who makes a statutory declaration that he does not intend to sell such wares.

See also SILVERSMITHS' AND GOLDSMITHS' WORK; SHEFFIELD PLATE. (J. S. Fs.)

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HALL OF FAME. The Hall of Fame for great Americans, which honours U.S. citizens who have achieved lasting distinction or fame, stands at the summit of University Heights on the uptown campus of New York university. (For the National Baseball Hall of Fame at Cooperstown, N.Y., *see* BASEBALL.) A national shrine, the open-air colonnade looks down on the northern limits of New York city, and stands high over the Hudson and Harlem river valleys, facing the New Jersey Palisades. The Greco-Roman colonnade, designed by the architect Stanford White, is a semicircular granite corridor, 630 ft. long and a little over 10 ft. wide. In its original design it was an architectural foreground for the three university buildings which it half encircles—the Hall of Philosophy, the Gould Memorial library and the Hall of Languages. Bronze portrait busts of men and women who have left indelible marks on the history and culture of the United States are placed, facing each other, between the simple columns. Below each bust is a recessed tablet which commemorates the person honoured.

The founder of the Hall of Fame was Henry Mitchell MacCracken, chancellor of the university when the campus was being created in the 1890s. Chancellor MacCracken enlisted the interest of Helen Miller Gould Shepard, who, in memory of her father, Jay Gould, had already provided funds for the erection of the Gould Memorial library and a dormitory (Gould hall); with her aid the Hall of Fame was established in 1900. It does not restrict its posthumous honour to any one class; it includes persons of achievement in many fields—science, literature, medicine, government, theology, the arts, law, education and social work. Writing at the time of the dedication ceremonies in 1901, MacCracken said, "The Hall of Fame will teach youth that leaders in science and scholarship may be as great as military and naval heroes." He said he had in mind a monument that "would overrule sectional and partisan outcry." Among this distinguished group are George Washington, Abraham Lincoln, Andrew Jackson and other U.S. presidents, Henry Clay and Daniel Webster, Henry Ward Beecher, and Booker T. Washington. The busts of Robert E. Lee and Ulysses S. Grant stand side by side in the colonnade.

New York university, through its senate body (the chief administration and the deans of the colleges), acts as trustee of the Hall for the nation. The choices are entirely in the hands of the electoral college, made up of approximately 100 men and women from every state in the union, and from every field of endeavour. The electors, many of whom may one day be elected to the shrine themselves, are appointed by the director and are ratified by the university senate. Presidents Grover Cleveland, Theodore Roosevelt, Woodrow Wilson, and the educator Alice Freeman Palmer were electors who were honoured posthumously by election to the Hall.

Any man or woman who was a citizen of the United States, native or acquired, who made his home in the United States, and who has been deceased 25 years or more is eligible for election. Nominations open to the public on April 1 preceding an election year, and close on April 1 of the election year. Elections are held every five years (1955, 1960, 1965, etc.). No more than seven persons may be elected at any given time. Election to the Hall is achieved by a majority count of the electors voting. The results