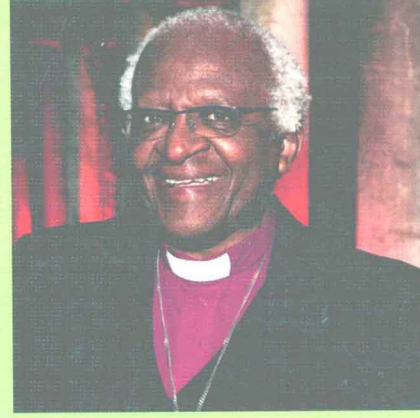
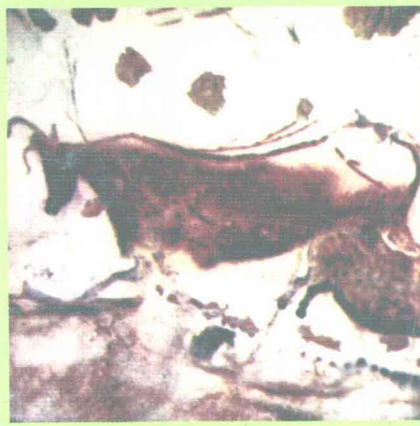
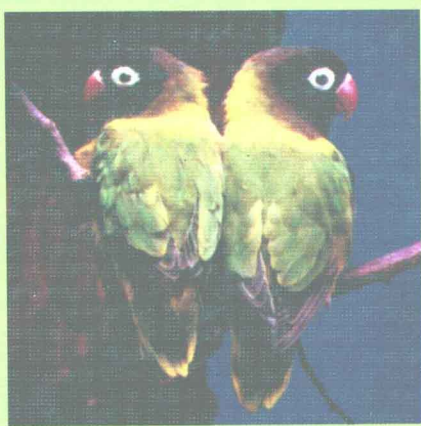
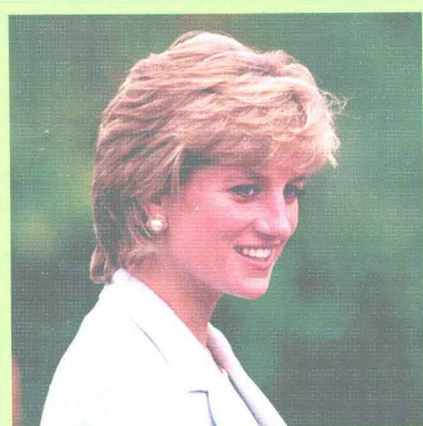


Britannica CONCISE ENCYCLOPEDIA

不列颠简明百科全书

(英文版)



上海外语教育出版社

外教社 SHANGHAI FOREIGN LANGUAGE EDUCATION PRESS

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出版说明*

《不列颠百科全书》(*Encyclopaedia Britannica*),旧译《大英百科全书》,素以学术性强、权威性高著称于世,是中国知识界最熟悉的英文百科全书。该百科全书于1768~1771年初版,共3卷,后不断增订再版,1938年起每年出版《不列颠百科全书年鉴》1册,作为补充本。1974年,经全面修订,出版第15版,共30卷;1985年增至32卷。全书分为4个部分:(1)《索引》,2卷;(2)《百科类目》(*Propaedia*),1卷,是全书知识的分类目录;(3)《百科简编》(*Micropaedia*),12卷,其本身又可作为一部独立的简明百科词典使用;(4)《百科详编》(*Macropaedia*),17卷,系统介绍各学科及重要人物、历史、地理等知识。

《不列颠百科全书》在中国的译介出版工作始于改革开放以后。1985~1986年中国大百科全书出版社以第15版《不列颠百科全书》之《百科简编》为主,辅以《百科详编》,编译出版中文版《简明不列颠百科全书》10卷本。此后,该社于1999年出版《不列颠百科全书》(国际中文版)20卷本(2007年出版其修订版);2005年根据 *Britannica Concise Encyclopedia* 编译出版中文版《不列颠简明百科全书》上、下两卷。

不列颠品牌百科全书英文版在我国的引进出版一直是一个空白,而广大外语工作者由于教学、科研和翻译的需要渴望能在国内买到原版不列颠品牌百科全书。为此,上海外语教育出版社根据读者的需求,首次引进了 *Britannica Concise Encyclopedia*,即《不列颠简明百科全书》的英文版。我社引进的版本基于该书的2006年版,同时又根据时势的变化,对书中的相关词条,如 Montenegro, Pluto, Serbia, Boris Yeltsin 等,进行了更新。为方便中国读者阅读,我们把原书的注音系统改为国内通行的 D. J. 国际音标。对少数词条内容,我们经与美国不列颠百科全书公司沟通,进行了必要的删改。书中某些观点,并不代表我社想法,请广大读者注意批判阅读。

《不列颠简明百科全书》秉承《不列颠百科全书》一贯的翔实可靠、缜密严谨的风格,是少数权威的单卷本百科全书之一。本书所收信息涵盖人类的每一个知识领域,不仅包括哲学、政治、科学、医学卫生、文学、艺术、历史、地理等学科,还包括计算机、商务、体育、大众文化等方面。全书收条目28000余,并配照片1800张、地图190幅、线条画150幅以及图表30幅。

自1768年起,《不列颠百科全书》就成为英语世界最权威的工具书。《不列颠简明百科全书》浓缩不列颠品牌工具书的权威和可信品质于一卷;它源自《不列颠百科全书》编纂人员的集体智慧,是我们必备的具有终极权威之案头工具书。

上海外语教育出版社

* 本说明参考了《辞海》(上海辞书出版社,1999)、《简明不列颠百科全书》(中国大百科全书出版社,1985,1991)、《不列颠百科全书》(国际中文版)(中国大百科全书出版社,1999)、《不列颠简明百科全书》(中国大百科全书出版社,2005)以及不列颠百科全书网站(<http://www.britannica.com/>),特此致谢!

Foreword

It is hard to think of a more cherished source of history and general information than the encyclopedia. For more than 2,000 years, in virtually every land, in countless languages and various forms—from handwritten papyrus rolls and codices of folded parchment to multivolume print sets, laser-burned discs, and Internet-accessible online databases—encyclopedias have been a common point of departure for readers the world over wanting a comprehensive look at life and its many wonders, past and present.

Since the publication of its first edition in 1768, *Encyclopædia Britannica* has been a leader in this field of publishing. Its 44-million word encyclopedia is often cited as the most authoritative reference work in the world, and its 32-volume print set—the equivalent of a library of several hundred books—is the oldest continuously published and revised work in the English language.

And so it is with great pleasure that we offer today yet another way to access Britannica's wealth of information. *Britannica Concise Encyclopedia* is the only single-volume, general desk reference work published exclusively by Encyclopædia Britannica. Portable and designed for quick reference and based on *Merriam-Webster's Collegiate Encyclopedia*, published in conjunction with Encyclopædia Britannica in 2000, this updated and enhanced edition covers in abridged form in a newly designed, color format the chief subjects of academic study and topics of popular interest, from sports to world history, from cinema to the hard sciences. Like Britannica's core encyclopedia, the scope of *Britannica Concise* is global and far-reaching, reflecting both the shrinking world we live in and the quickly expanding base of knowledge we desire as a result. Whether the user is a high school junior wanting to know about J.K. Rowling, a college freshman needing to know how wind chill is calculated, or simply a family at the dinner table wanting to quell debate over the height of Mt. Everest or the origins of the Taliban,

Britannica Concise should serve as a convenient and reliable place to turn for cogent answers and general information.

Because the entries derive largely from their longer counterparts in *Encyclopædia Britannica*, they reflect the same standards of quality for which Britannica is famous. Ideally, *Britannica Concise* will meet the readers' needs of the moment while whetting their appetite for the extended treatment of people, places, and ideas found in Britannica's many other products.

The over 28,000 entries in *Britannica Concise* vary in length from about 50 to 1,000 words, with the shortest entries being helpful cross-references. There are more than 2.6 million words of text, 1,800 photographs, 190 maps, 150 line drawings, and 30 tables. The new 16-page section of color plates presents useful information on the world, from maps on countries and population density to maps on world religions and the international time zones; there are even plates of World Heritage sites.

A wealth of information is also found in the many tables throughout *Britannica Concise*, from descriptions of the geologic time periods or months in the Muslim calendar to the various measurements in the International System of Units; there is a table listing every winner of a Nobel Prize as well as tables delineating the gods and goddesses of Greek and Roman mythology. Whatever the subject or issue at hand, *Britannica Concise*, we trust, will enrich the reader's understanding of the matter while acting as a quick and authoritative guide to the many other manifestations of life and human endeavor.

So, on behalf of Encyclopædia Britannica's editorial staff, whose hard work and devotion make Britannica products possible, we welcome you to the latest addition in the Britannica family of reference works.

Theodore Pappas
Editor

Explanatory Notes

Alphabetization. The articles are alphabetized word by word, with further alphabetizing letter by letter within a word. A “word” is here defined as a unit of one or more characters set off from other words by spaces, dashes, hyphens, or other symbols. Entry titles consisting of more than one word are arranged in alphabetical order of the succeeding words. Titles with identical spellings are arranged in the order (1) persons, (2) places, and (3) things. The following list illustrates the word-by-word principle:

horn
Horn, Cape
Horn of Africa
hornbill
Horne, Lena
horned toad
Hornsby, Rogers

Further alphabetization rules include the following: (1) Diacritics, apostrophes, hyphens, dashes, periods, and ampersands are ignored in alphabetization. (2) Names of monarchs and popes that are identical except for the Roman numeral following the name are ordered numerically. (3) Names beginning with *Mac-* and *Mc-* are ordered literally, all names beginning with *Mac-* preceding (by a number of pages) all names beginning with *Mc-*.

Entry headword style. Variant spellings or versions of the encyclopedia’s entry headwords are printed in boldface type when they are in common use; more obscure variants are printed in ordinary roman type and are not provided with pronunciations. No effort has been made to be exhaustive in listing variants, and rare variants have been ignored.

Several italicized terms are used to discriminate among the variants. The label *or* simply indicates a common alternative name or spelling. The label *originally* precedes the birth name of a person who is entered under a name that was adopted or acquired subsequently. When a person’s original surname is different from the name in the principal headword, the entire birth name is given, not enclosed in parentheses. The label *known as* precedes a common way of referring to a person that may never have had formal status. The label *later* generally precedes a title bestowed on a person in the course of his or her lifetime. The label *formerly* indicates an older and generally discarded name for an entity, usually a geographical locale. The label *officially* indicates a formal or legal

version of a name. The label *in full* precedes a fully spelled-out version of a name that is usually encountered in its shorter form. A label consisting of a language name precedes a native version or spelling of a name of term.

Biographical entry headwords in particular may employ parentheses in several ways. Parentheses may enclose portions of a person’s name that are rarely used, a person’s original given name or names, a later addition such as a title, or translations of titles or epithets.

drum or croaker

Odin or Wotan

Bacall, Lauren *originally* Betty Joan Perske

O’Donnell, Daniel *known as the Liberator*

Heath, Edward (Richard George) (*later Sir Edward*)

Iqaluit *formerly* Frobisher Bay

Latvia *officially* Republic of Latvia

OCR *in full* optical character recognition

fax *in full* facsimile

Magellan, Strait of *Spanish* Estrecho de Magallanes

Odysseus *Roman* Ulysses

Connelly, Marc(us Cook)

Doctorow, (E)dgar L(aurence)

Hughes, (James Mercer) Langston

Basil II *known as* Basil Bulgaroctonus (“Slayer of the Bulgars”)

Pronunciations. Entries for terms and names whose pronunciation the encyclopedia’s likely users might hesitate over are supplied with pronunciations. Foreign names or terms that are pronounced in a markedly different way by native speakers and English-speakers are frequently provided with two pronunciations, one of them preceded by a language label (e.g., *English, French, Spanish*). The symbols employed and the sounds they represent are listed on page x.

Romanization of foreign languages. Words from languages that do not use the Western (Roman) alphabet generally reflect the spellings most commonly seen in English-language contexts.

Chinese names are almost always transcribed according to the Pinyin system. Where a Chinese name or term appears as a headword, the older Wade-Giles spelling is given as an *or* variant. Taiwanese place-names and biographical names, however, are generally listed in their Wade-Giles spelling, with the Pinyin spelling as a variant. A few Chinese words widely used in English (e.g., *Taoism*) retain their traditional English spelling.

Japanese names and terms are generally transcribed according to the Hepburn system but without macrons to indicate vowel length.

Russian names and terms generally observe traditional Western spellings and follow the diacriticless system employed by the U.S. Board on Geographic Names.

Arabic names and terms generally follow the bestestablished Western usage. Ayns and hamzas have generally been omitted. Except in a few well-established Western transliterations, the *l* in the article *al-* or *el-* ("the") is not assimilated to a following consonant (thus, we employ the spelling *Harun al-Rashid*, not *Harun ar-Rashid*), even though such assimilation reflects Arabic pronunciation and is sometimes encountered in English sources.

Cross-references. Cross-references to other articles are indicated by small capitals for the alphabetized element of the term or name. Thus, "J. VON NEUMANN" sends the reader to the V's, "J.W. von GOETHE" to the G's; CAPE BRETON ISLAND" sends the reader to the C's, "Cape of GOOD HOPE" to the G's; and so on.

A term is cross-referenced only when it is likely that the reader of the article within which the cross-

reference appears would want to be notified about the additional article. Hence many terms for which there are corresponding entries are not highlighted as references. For instance, in the article on Tim Berners-Lee, we have cross-referenced "World Wide Web" (whose invention was his principal achievement) but not "Internet," which is naturally cross-referenced within the "World Wide Web" article. Because cross-referencing of this kind is discretionary, readers should not assume that a noun lacks its own entry simply because it is not referenced within the article being read.

For the sake of saving space, many people who receive their own entries have their given names abbreviated and their surnames in small capitals when they are mentioned in an article, regardless of how likely the reader of the article is to want to be alerted to the biographical entry. The names of countries, U.S. states, and Canadian provinces, by contrast, are virtually never referenced, regardless of their centrality to a given article, on the presumption that readers will correctly assume that the encyclopedia contains articles on all such entities.

Some 3,000 cross-references are provided at their own alphabetical place, to direct the reader who has looked up a variant version of the name or has expected an entry to be alphabetized according to an element other than the one actually used.

Abbreviations

| | | | |
|----------------|------------------------------|--------------|----------------------|
| AD | anno Domini | Md. | Maryland |
| Adm. | Admiral | Me. | Maine |
| Ala. | Alabama | mi | mile(s) |
| Amer. | American | Mich. | Michigan |
| Ariz. | Arizona | Minn. | Minnesota |
| Ark. | Arkansas | Miss. | Mississippi |
| BC | before Christ | ml | milliliter(s) |
| C | Celsius | mm | millimeter(s) |
| c. | circa | Mo. | Missouri |
| Cal. | California | Mont. | Montana |
| Capt. | captain | mph | miles per hour |
| cc | cubic centimeter(s) | N | North |
| cent. | century, centuries | N.C. | North Carolina |
| cm | centimeter(s) | N.D. | North Dakota |
| Co. | Company, County | NE | northeastern |
| Col. | Colorado, Colonel | Neb. | Nebraska |
| Conn. | Connecticut | Nev. | Nevada |
| Corp. | Corporation | N.H. | New Hampshire |
| cu | cubic | N.J. | New Jersey |
| D.C. | District of Columbia | N.M. | New Mexico |
| Del. | Delaware | NW | northwestern |
| Dr. | Doctor | N.Y. | New York |
| E | East | Okla. | Oklahoma |
| e.g. | exempli gratia (for example) | Ore. | Oregon |
| est. | estimate, estimated | oz | ounce(s) |
| F | Fahrenheit | Pa. | Pennsylvania |
| fl. | flourished | PhD | Doctor of Philosophy |
| Fla. | Florida | Pres. | President |
| ft | foot, feet | r. | reigned, ruled |
| g | gram(s) | Rev. | Reverend |
| Ga. | Georgia | R.I. | Rhode Island |
| Gen. | General | S | South |
| Gov. | Governor | S.C. | South Carolina |
| i.e. | id est (that is) | S.D. | South Dakota |
| Ill. | Illinois | SE | southeastern |
| in. | inch(es) | Sen. | Senator |
| Ind. | Indiana | sq | square |
| Jr. | Junior | St. | Saint |
| K | Kelvin | SW | southwestern |
| Kan. | Kansas | Tenn. | Tennessee |
| kg | kilogram(s) | U.N. | United Nations |
| km | kilometer(s) | U.S. | United States |
| kph | kilometers per hour | Va. | Virginia |
| Ky. | Kentucky | vs. | versus |
| La. | Louisiana | Vt. | Vermont |
| lb, lbs | pound, pounds | W | West |
| m | meter(s) | W.V. | West Virginia |
| MA | Master of Arts | Wash. | Washington |
| Maj. | Major | Wisc. | Wisconsin |
| Mass. | Massachusetts | Wy. | Wyoming |

Pronunciation Symbols

Consonants

| | | | |
|----|-------|-----|----------|
| p | pen | z | zero |
| b | back | ʃ | fish |
| t | tea | ʒ | pleasure |
| d | day | h | hot |
| k | key | m | sum |
| g | get | n | sun |
| tʃ | cheer | ŋ | sing |
| dʒ | jump | l | let |
| f | fat | r | red |
| v | very | (r) | honour |
| θ | thing | j | yet |
| ð | then | w | wet |
| s | soon | | |

Vowels

| | | | |
|----|--------|----|----------|
| i: | sheep | ɜ: | bird |
| ɪ | ship | ə | cupboard |
| e | bed | eɪ | make |
| æ | cat | əʊ | note |
| ɑ: | calm | aɪ | bite |
| ɒ | dog | ɔɪ | boy |
| ɔ: | caught | aʊ | now |
| ʊ | put | ɪə | here |
| u: | boot | eə | there |
| ʌ | cut | ʊə | poor |

Stress

/ˈ/ shows the main stress, as in **become** /bɪˈkʌm/.

/ɪ/ shows the secondary stress, as in **afternoon** /ˌɑːftəˈnuːn/.

Guide to Plates

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| International Time Zones | <i>Plate</i> | 16 |

Map Legend

| Map Legend | | | |
|----------------------------------------------|---------------------------|-----------------------------------------|------------|
| Cities and towns | Boundaries | Other Features | |
| São Paulo ● City | — International | SERENGETI NATIONAL PARK ● National park | — Canal |
| Mexico City ★ National capital | - - Disputed | Mont Blanc 15,771 ft ▲ Mountain peak | — Aqueduct |
| Albuquerque ● Second level political capital | Line of control | — River | — Dam |
| Lausanne ■ Other administrative centre | — Second level political | — Intermittent river | — Falls |
| | - - Third level political | | — Rapids |

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| <i>Britannica Concise Encyclopedia</i> | 1~1838 |
| Encyclopædia Britannica Corporate Page | 1839 |
| Merriam-Webster Editorial Staff | 1840 |

A Coruña *Spanish La Coruña* City (pop., 2001: 236,379), northwest Spain. A seaport on the Atlantic Ocean, it is believed to antedate Roman times. It was part of the caliphate of CÚRDOBA. A point of departure for the Spanish ARMADA in 1588, it was sacked by Sir FRANCIS DRAKE in 1589. In the PENINSULAR WAR, it was the site of a notable victory by the English over the French. It is now a large fishing centre and one of northern Spain's most important shipping ports.

a posteriori /'eɪpɒsɪ'terɪ'æɪ/ See A PRIORI

a priori /'eɪpraɪ'æɪ/ In EPISTEMOLOGY, knowledge that is independent of all particular experiences, as opposed to a posteriori (or empirical) knowledge, which derives from experience. The terms have their origins in the medieval Scholastic debate over Aristotelian concepts (see SCHOLASTICISM). IMMANUEL KANT initiated their current usage, pairing the ANALYTIC-SYNTHETIC DISTINCTION with the a priori-a posteriori distinction to define his theory of knowledge.

A&P See GREAT ATLANTIC & PACIFIC TEA CO.

Aachen /'æˌkən/ *French Aix-la-Chapelle* City (pop., 1995 est.: 247,000), western Germany, southwest of Cologne. It was inhabited by Romans in the 1st century AD. A center of Carolingian culture, and the second city of CHARLEMAGNE's empire, it was the site of his great palace. The cathedral built by Charlemagne c. 800 saw the coronation of most German kings of the 10th-16th century; his chapel, with his tomb, remains as part of the larger Gothic cathedral today. Aachen was part of France 1801-15. It is famous for its many spas.

Aaiún, El /'aɪ'ʊn/ See LAAYOUNE

Aalto, (Hugo) Alvar (Henrik) /'æltə/ (born Feb. 3, 1898, Kuortane, Fin., Russian Empire — died May 11, 1976, Helsinki) Finnish architect and designer. He graduated from the Technical Institute of Helsinki and in 1925 married Aino Marsio, who served as his collaborator. His reputation rests on a distinctive style that blends classic Modernism, indigenous materials (especially timber), and personal expression. His unique blending of Modernism and informal regional character was perhaps best expressed in his civic centre in Säynätsalo (1950-52), with its simple forms in red brick, wood, and copper. He remains one of the Modern movement's most popular architects; reproductions of his bent laminated wood furniture appear in households worldwide.

aardvark /'ædvɑːrk/ or **African ant bear** Heavily built mammal (*Orycteropus afer*) of sub-Saharan forests and plains. Its stout, piglike body ("aardvark" is Afrikaans for "earth pig") may be as long as 6 ft (1.8 m), including a 2-ft (60-cm) tail. It has a long snout, rabbitlike ears, short legs, and long toes with large, flattened claws. It feeds at night by ripping open ant and termite nests and lapping up the insects with a long (1-ft, or 30-cm), sticky tongue. Though not aggressive, it uses claws to fight off attackers. Its classification with regard to other mammals is uncertain.

Aare River or **Aar River** River, central and northern Switzerland. The longest river entirely within Switzerland, it flows northwest from the BERNESE ALPS and passes through the Gorge of the Aare and by the city of BERN before flowing northeast to enter the RHINE at Koblenz, after a course of 183 mi (294 km).

Aarhus /'æɪrhuːs/ See ARHUS

Aaron /'eɪərən/ (flourished 14th century BC) Brother of MOSES and traditional founder and head of the priesthood of ancient Israel. According to the Bible, he was the spokesman for Moses and played a central role in forcing the pharaoh to allow the Israelites to leave Egypt. God charged Aaron and Moses with commemorating the event at Passover, and Aaron and his sons were given priestly authority by Moses. Though Aaron is a pivotal figure in EXODUS, he nearly fades from view thereafter. He is mentioned as the one responsible for the Israelites' idolatrous worship of the golden calf while Moses was on Mount Sinai receiving the Law from God. His death at age 123 is noted in Numbers.

Aaron, Hank *byname of Henry Louis Aaron* (born Feb. 5, 1934, Mobile, Ala., U.S.) U.S. baseball player, one of the greatest in professional baseball. After playing briefly in the NEGRO LEAGUES and then in the minor leagues, Aaron was moved up to the majors as an outfielder with the Milwaukee Braves in 1954. By the time the Braves moved to Atlanta, Ga., in 1965, Aaron had hit 398 home runs; in 1974 he hit his 715th, breaking BABE RUTH's record. He played his final two



Hank Aaron.

PICTORIAL PARADE

seasons (1975-76) with the Milwaukee Brewers. Aaron's records for career home runs (755), extra-base hits (1,477), and runs batted in (2,297) remain unbroken, and only TY COBB and PETE ROSE exceed him in career hits (3,771). Aaron is renowned as one of the greatest hitters of all time.

AARP *formerly American Association of Retired Persons* Nonprofit, nonpartisan organization that addresses the needs and interests of Americans aged 50 and older. It was founded in 1958 by a retired teacher, Ethel Andrus, and merged in 1982 with the National Retired Teachers Association, also founded by Andrus (1947). Its bimonthly magazine, *Modern Maturity*, has the largest circulation of any U.S. periodical. Its membership exceeds 35 million. Its members' reliably high turnout at the polls has made it one of the most powerful lobbying groups in the country.

abacus /'æbəkəs/ Calculating instrument that uses beads that slide along a series of wires or rods set in a frame to represent the decimal places. Probably of Babylonian origin, it is the ancestor of the modern digital calculator. Used by merchants in the Middle Ages throughout Europe and the Arabic world, it was gradually replaced by arithmetic based on HINDU-ARABIC NUMERALS. Though rarely used in Europe past the 18th century, it is still used in the Middle East, China, and Japan.

Abahai See HONGTAIJI

Abakanowicz, Magdalena (born June 20, 1930, Falenty, Pol.) Polish sculptor. A descendant of nobility, she graduated from Warsaw's Academy of Fine Arts in 1955. She became the pioneer and leading exponent of sculpture made of woven fabrics,

calling her three-dimensional weavings "Abakans" (from her surname). She produced series of fabric forms called *Heads* (1975), *Backs* (1976-80), *Embryology* (1980), and *Catharsis* (1986). She has also exhibited paintings, drawings, and sculptures in other media internationally and has been widely imitated in Europe and the U.S.

abalone /'æbə'ləʊni/ Any of several marine SNAIL species (genus *Haliotis*, family Haliotidae), found in warm seas worldwide. The outer surface of the single shell has a row of small holes, most of which fill in as the animal grows; some remain open as outlets for waste products. Abalones range from 4 to 10 in. (10-25 cm) across and up to 3 in. (8 cm) deep. The largest is the 12 in. (30 cm) abalone (*H. rufescens*). The shell's lustrous, iridescent interior is used in ornaments, and the large muscular foot is eaten as a delicacy. Commercial abalone fisheries exist in California, Mexico, Japan, and South Africa.

Abate, Niccolò dell' /'ə'bɛt/ See NICCOLO DELL'ABBATE

Abbado, Claudio (born June 26, 1933, Milan, Italy) Italian conductor. Abbado studied piano, composition, and conducting at the Giuseppe Verdi Conservatory before beginning to conduct in Vienna. He was long associated with Milan's LA SCALA (1968-86), as principal conductor and ultimately as artistic director, as well as with the Vienna Philharmonic and the London Symphony Orchestra. In 1989 he succeeded Herbert von KARAJAN as permanent conductor and artistic director of the Berlin Philharmonic. He is known for his commitment to adventurous programming, including much modern music.

'Abbās I *known as 'Abbās the Great* (born Jan. 27, 1571 — died Jan. 19, 1629) Shah of Persia (1587-1629). Succeeding his father, Muhammad Shah, he strengthened the SAFAVID DYNASTY by expelling Ottoman and Uzbek troops and creating a standing army. 'Abbās made ESFAHAN Persia's capital, and under him it became one of the world's most beautiful cities. Persian artistic achievement reached a high point during his reign; illuminated manuscripts, ceramics, and painting all flourished, and the Portuguese, Dutch, and English competed for trade relations with Persia. Tolerant in public life (he granted privileges to Christian groups) and concerned for his people's welfare, his fear for his personal security led him to act ruthlessly against his immediate family.

'Abbās I (born 1813 — died July 13, 1854, Banhā, Egypt) Viceroy of Egypt (1848-54) under the OTTOMAN EMPIRE. His rule was one of consolidation, when many of the Western-style reforms begun by his grandfather, MUHAMMAD 'ALĪ, were either discontinued or neglected. Though generally distrusting of foreigners, he allowed the British to construct a railroad between Alexandria and Cairo in 1851. The British, in turn, assisted



'Abbās I, detail of a painting by the Mughal school of Jahāngīr, c. 1620; in the Freer Gallery of Art, Washington, D.C.

COURTESY OF THE SMITHSONIAN INSTITUTION, FREER GALLERY OF ART, WASHINGTON, D.C.

him in disputes with his Ottoman overlords, whom he nonetheless aided by sending troops to fight in the CRIMEAN WAR (1853). A recluse, he was murdered by two servants at his palace in Banhā.

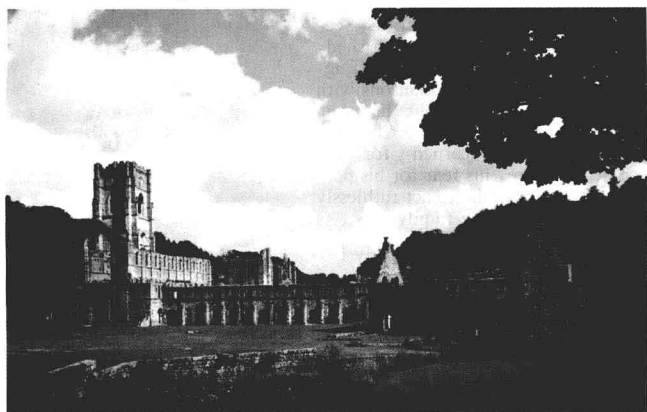
Abbas, Ferhat (born Aug. 24, 1899, Taher, Alg. — died Dec. 24, 1985, Algiers) Algerian political leader who served as first president of the provisional government of the Algerian Republic (1958). Originally a Francophile, he became disillusioned with France, and during World War II (1939–45) he issued a condemnation of French rule, demanding a constitution that would grant equality to all Algerians. He joined the NATIONAL LIBERATION FRONT (FLN), which helped achieve independence from France (1958–62). He was elected president of the Algerian Constituent Assembly in 1962 but resigned in 1963 following a dispute within the FLN. See also YOUNG ALGERIANS.

'Abbāsīd dynasty (750–1258) The second of the two great Sunni dynasties of the Islamic Caliphate. The 'Abbāsīds took their name from an uncle of the Prophet MUHAMMAD, al-'Abbās, whose descendants formed one of several groups agitating for change under the Umayyad dynasty. The Umayyad enforcement of a brand of Arab chauvinism, wherein non-Arab Muslims were relegated to a lower status, led to a revolution in which the 'Abbāsīds claimed the Caliphate and enforced a more universal community of believers. This was symbolized by their movement of the caliphal capital from DAMASCUS to BAGHDAD, an area closer to the geographic centre of the empire and nearer the Persian hinterland. Under their rule, Islamic culture flourished, new heights in philosophy and science were attained, and the period was widely seen as the "golden age" of the Islamic world. During that time, however, the Caliphate's authority slowly began to erode as regional power centres developed throughout the empire. Although central authority was intermittently reasserted by strong-willed caliphs, by the 13th century 'Abbāsīd authority was largely spiritual. The last 'Abbāsīd caliph was executed by Mongol invaders, but a shadow Caliphate (of dubious authenticity) continued into the early 20th century. See also ABŪ MUSLIM.

Abbate, Niccolò dell' or Niccolò dell'Abate (born c. 1512, Modena, Duchy of Modena — died 1571, Fontainebleau, Fr.) Italian painter. He was trained in Modena and developed his mature style under the influence of his contemporaries CORREGGIO and PARMIGIANINO in Bologna (1544–52). There he painted portraits and decorated palaces with frescoes of landscapes and figure compositions in the MANNERIST style. In 1552 he was invited by Henry II of France to work under PRIMATICCIO at the Palace of FONTAINEBLEAU, where he executed immense murals (most now lost). He remained in France the rest of his life. His mythological landscapes were a principal source of the French Classical landscape tradition, and he was a precursor of CLAUDE LORRAIN and NICOLAS POUSSIN.

Abbe, Cleveland /ˈæbə/ (born Dec. 3, 1838, New York, N.Y. — U.S. — died Oct. 28, 1916, Chevy Chase, Md.) U.S. meteorologist. He was trained as an astronomer and appointed director of the Cincinnati Observatory in 1868. His interest turned to meteorology, and he inaugurated a public weather service that served as a model for the national weather service, which was organized shortly thereafter as a branch of the (U.S. Army) Signal Service. In 1871 he was appointed chief meteorologist of the branch, which in 1891 was reorganized under civilian control as the U.S. Weather Bureau (later the National Weather Service), and he served in that capacity more than 45 years.

abbey /ˈæbi/ Complex of buildings housing a MONASTERY or convent under the direction of an abbot or abbess, serving the needs of a self-contained religious community. The first abbey was MONTE CASSINO in Italy, founded in 529 by St. BENEDICT OF NURSIA. The CLOISTER linked the most important elements of an abbey together. The dormitory was often built over the dining hall on the eastern side of the cloister and linked to



The ruins of Fountains Abbey, a Cistercian monastery founded in the 12th century, near Ripon, North Yorkshire, England.

ANDY WILLIAMS

the central church. The western side of the cloister provided for public dealings, with the gatehouse controlling the only opening to the outer, public courtyard. On the southern side of the cloister were a central kitchen, brewery, and workshops. The novitiate and infirmary were housed in a building with its own chapel, bathhouse, dining hall, kitchen, and garden. In the 12th–13th century, many abbeys were built throughout Europe, especially in France.

Abbey Theatre Dublin theatre. It developed from the Irish Literary Theatre, founded in 1899 by WILLIAM BUTLER YEATS and Lady AUGUSTA GREGORY to foster Irish drama. After moving the troupe to a renovated theatre on Abbey Street in 1904, they codirected its productions with JOHN MILLINGTON SYNGE, staged their own plays, and commissioned works by SEAN O'CASEY and others. Important premieres included Syngé's *The Playboy of the Western World* (1907) and O'Casey's *The Plough and the Stars* (1926). The Abbey became the first state-subsidized theatre in the English-speaking world in 1924. A fire destroyed the original playhouse in 1951, and a new theatre was built in 1966.

Abbey, Edward (born Jan. 29, 1927, Home, Pa. — U.S. — died March 14, 1989, Oracle, Ariz.) U.S. writer and environmentalist. Abbey worked as a park ranger and fire lookout for the National Park Service. He wrote a number of volumes on consumer culture's encroachment on the American wilderness. *Desert Solitaire* (1968), one of his best-known, is set in southeastern Utah. His 1975 novel *The Monkey Wrench Gang*, describing the exploits of a band of guerrilla environmentalists, inspired numerous real-life activists.

Abbott, Berenice (born July 17, 1898, Springfield, Ohio, U.S. — died Dec. 9, 1991, Monson, Maine) U.S. photographer. She left the American Midwest in 1918 to study in New York City, Paris, and Berlin. In Paris she became an assistant to MAN RAY and EUGÈNE ATGET. In 1925 she set up her own studio and made portraits of Parisian expatriates, artists, writers, and collectors. She retrieved and catalogued Atget's prints and negatives after his death. In the 1930s she photographed New York's neighbourhoods for the WPA FEDERAL ART PROJECT, documenting its changing architecture; many of the photographs were published in *Changing New York* (1939).

Abbott, Bud; and Costello, Lou orig. William Alexander Abbott and Louis Francis Cristillo (born Oct. 2, 1899, Asbury Park, N.J. — U.S. — died April 24, 1974, Woodland Hills, Calif.) (born March 6, 1906, Paterson, N.J. — died March 3, 1959, East Los Angeles, Calif.) U.S. comedy team, prominent in VAUDEVILLE from 1931 and on radio from 1938. Their first successful film, *Buck Privates* (1941), was followed by more than 30 other SLAPSTICK comedies, with Abbott playing a bullying straight man to Costello's childlike buffoon. Their famous routine "Who's on First?" was first performed in the film *The Naughty Nineties* (1945). The collaboration ended in 1957.

Abbott, George (Francis) (born June 25, 1887, Forestville, N.Y. — U.S. — died Jan. 31, 1995, Miami Beach, Fla.) U.S. theatre director, producer, and playwright. In 1913 he began acting on Broadway, and he soon turned to writing and directing plays, achieving his first of many hits with *The Fall Guy* (1925). He also wrote, directed, or produced many popular musicals, including *The Boys from Syracuse* (1938), *Pal Joey* (1940), *Where's Charley* (1948), *Wonderful Town* (1953), and *Damn Yankees* (1955). He was active in the theatre into the 1980s, directing a revival of *On Your Toes* at age 95.

Abbott, Grace (born Nov. 17, 1878, Grand Island, Neb. — U.S. — died June 19, 1939, Chicago, Ill.) U.S. social worker, public administrator, educator, and reformer. She graduated from Grand Island College and did graduate work at the University of Nebraska and the University of Chicago, receiving a Ph.D. in political science in 1909. In 1908 she began working at JANE ADDAMS's Hull House in Chicago, where she co-founded the Immigrants' Protective League. As director of the U.S. Children's Bureau (1921–34), she fought to end child labour through legislation and restrictions on federal contracts. She worked to win public approval of a constitutional amendment prohibiting child labour, though submitted to the states in 1924, the amendment was never ratified. Her best-known book is *The Child and the State* (2 vol., 1938).

Abbott, Lyman (born Dec. 18, 1835, Roxbury, Mass. — U.S. — died Oct. 22, 1922, New York, N.Y.) U.S. minister. Son of the writer Jacob Abbott (1803–79), he left law practice to study theology and was ordained in 1860. He became editor of the *Illustrated Christian Weekly* in 1870 and editor in chief of HENRY WARD BEECHER's *Christian Union* in 1881. In 1888 he succeeded to Beecher's pulpit in Brooklyn. A lead-



Lyman Abbott, 1901.

LIBRARY OF CONGRESS, WASHINGTON, D.C.

ing exponent of the SOCIAL GOSPEL movement, he sought to apply Christianity to social and industrial problems, rejecting both socialism and laissez-faire economics. On other problems Abbott presented the viewpoint of liberal evangelical Protestantism.

Abbott, Sir John (Joseph Caldwell) (born March 12, 1821, St. Andrews, Lower Canada — died Oct. 30, 1893, Montreal, Que., Can.) Canadian prime minister (1891–92). Educated at McGill University in Montreal, he became a lawyer in 1847 and was made queen's counsel in 1862. He was dean of McGill University law school from 1855 to 1880. After serving in the legislative assembly (1857–74, 1880–87), he was appointed to the Senate and became government leader. Upon the death of JOHN MACDONALD, he became the compromise choice for prime minister. Ill health forced his resignation in 1892.

abbreviation /əˈbrɪvɪˈeɪʃən/ Shortened form of a written word or phrase used in place of the whole. Abbreviations began to proliferate in the 19th century and have been prevalent since; they are employed to reduce the time required for writing or speaking, especially when referring to the myriad new organizations, bureaucratic entities, and technological products typical of industrial societies. An abbreviation can now easily become a word, either as an initialism in which the letters are pronounced individually (e.g., TV or FBI) or as an acronym in which the letters are combined into syllables (e.g., scuba, laser, or NAFTA).

ABC in full American Broadcasting Co. Major U. S. television network. It began when the expanding national radio network NBC split into the separate Red and Blue networks in 1928. To avoid a communications monopoly, NBC was forced to sell the Blue network in 1941. Its buyer, Edward J. Noble, maker of Life-Savers candies, gave the company its present name. After merging with United Paramount Theaters in 1953, ABC expanded into the emerging television industry and soon became one of the three top networks. It specialized in sports broadcasting and developed the instant replay in 1961. It was bought by Capital Cities Communications in 1985 and by the Walt Disney Co. in 1995.

'Abd al-'Aziz ibn 'Abd al-Rahmān ibn Faysal Al Sa'ūd See IBN SA'UD

'Abd Allāh (ibn Muhammad al-Ta'īshī) or **'Abdullahī** (born 1846, Sudan — died Nov. 24, 1899, Kordofan) Political and religious leader who succeeded Muhammad Ahmad (al-Mahdī) as head of the MAHDIST MOVEMENT in the Sudan in 1885. He launched attacks against the Ethiopians and invaded Egypt, securing his position by 1891. In 1896 Anglo-Egyptian forces began to reconquer the Sudan. 'Abd Allāh resisted until 1898, when he was forced to flee OMDURMAN. He died in battle one year later.

'Abd al-Malik ibn Marwān (born 646/647, Medina, Arabia — died Oct. 705, Damascus) Fifth caliph (685–705) of the Umayyad DYNASTY. 'Abd al-Malik was forced to flee his hometown of Medina during an uprising against Umayyad rule in 683. Two years later he succeeded to the caliphate and — with the help of his infamous lieutenant AL-HAJJAJ IBN YUSUF — began a seven-year campaign to defeat all rebellions against the Umayyads and reunify the Muslim world. He resumed the conquest of North Africa, winning the Berbers to his side and capturing Carthage (697) from the BYZANTINE EMPIRE. His good relations with the clergy of Medina led many to abandon their opposition to the Umayyads. He made Arabic the language of government throughout his domains, struck Islamic gold coins to replace Byzantine ones, and built the DOME OF THE ROCK in Jerusalem.

'Abd al-Mu'min ibn 'Alī (born 1094, Tāgrā, kingdom of the Hammadids — died 1163, Rabat, Almohad empire) BERBER caliph (1130–63) of the ALMOHAD DYNASTY. Around 1117 he fell under the sway of Ibn Tūmart, founder of the Almohad religious movement, and joined him in opposing to the ruling ALMORAVID DYNASTY. He succeeded Ibn Tūmart on the latter's death in 1130 and for the next 17 years carried on the struggle against the Almoravids. After defeating them at Marrakech in 1147, he massacred many of the city's inhabitants, made Marrakech his home base, and conquered all of North Africa west of Egypt.

'Abd al-Nāṣir, Jamāl See GAMAL ABDEL NASSER

'Abd al-Rahmān III (born January 891 — died Oct. 15, 961, Córdoba, Andalusian Spain) First CALIPH and greatest ruler of the Umayyad Arab Muslim dynasty of Spain. He succeeded his grandfather 'Abd Allāh as emir of CÓRDOBA in 912. He set out immediately to subdue Muslim rebels in their mountain fortresses, which became an annual task until the Umayyad's took Toledo in 933. Addressing the Christian threat to the north, he led the campaigns of Muez (920) and Navarra (924). In 928 he declared himself caliph. By 958 he had Christian kings paying him homage. During his rule, Córdoba was exemplary for its social, political, and cultural development; Christian and Jewish communities flourished, and the city's fame rivaled that of the Byzantine capital, Constantinople.

'Abd al-Samad (flourished 16th century) Persian miniature painter. Born in Iran, he traveled to India and became one of the first members of the imperial atelier there. Through their teachings in India, he and fellow countryman MĪR SAYYID 'ALĪ played a strong role in the foundation of the school of MUGHAL PAINTING. 'Abd al-Samad supervised the majority

of illustrations in the Mughal manuscript *Dāstān-e Amīr Hamzeh*, or *Hamzanama*, which included about 1,400 paintings. Favoured at court, in 1576 he was appointed master of the mint, and in 1584 he was made *diwān* (revenue commissioner) of Multan.

Abd el-Krim in full Muhammad ibn 'Abd al-Karīm al-Khattābī (born 1882, Ajdir, Mor. — died Feb. 6, 1963, Cairo, Egypt) BERBER resistance leader against Spanish and French rule in northern Morocco. He was chief Muslim judge for Morocco's Melilla district. He became disillusioned with Spanish policies and eventually led a resistance movement with his brother. He set up the Republic of the RIF in 1921 and became its president. In 1926 he was forced to surrender when faced by a combined French and Spanish army. Exiled to the island of Réunion, in 1947 he received permission to live in France but took asylum in Egypt while en route. When Morocco became independent (1956), MUHAMMAD V invited him to return, but he refused because of the continued presence of French troops in North Africa.

Abdelkader in full 'Abd al-Qādir ibn Muhyī al-Dīn ibn Mustafā al-Hasanī al-Jazā'irī (born Sept. 6, 1808, near Mascara, Alg. — died May 26, 1883, Damascus, Syria) Founder of modern Algeria and leader of its struggle against the French. His father had led a harassment campaign against the French, who invaded Algeria in 1830. Abdelkader succeeded his father as emir in 1832; by 1837, through battles and treaties, he had established his rule over most of Algeria's interior, leaving the French in control of some port cities. He organized a true state, imposing equal taxes and suppressing the privileges of the warlike tribes. He fortified the interior towns, opened arsenals and workshops, and expanded education. The French overpowered his forces and arrested him by 1846. Upon his parole in 1853, he chose a life of exile, eventually settling in Damascus. Revered for his exemplary life and ideals, in 1860 he showed himself to be a model of decency and probity when, at great risk to his own safety, he sheltered thousands of Christians during a Druze uprising. He died respected by both French and Algerians (and by many others throughout the world), and he remains the Algerian national hero.

Abdera City of ancient THRACE on the Aegean Sea nearly opposite THASOS. First settled in the 7th century BC, it was colonized a second time c. 540 BC. A prosperous member of the DELIAN LEAGUE, it was crippled in the 4th century BC by Thracian invasions. It was the home of DEMOCRITUS and PROTAGORAS.

abdominal cavity Largest hollow space of the body, between the DIAPHRAGM and the top of the pelvic cavity and surrounded by the spine and the ABDOMINAL MUSCLES and others. It contains most of the ALIMENTARY CANAL, the LIVER and PANCREAS, the SPLEEN, the KIDNEYS, and the ADRENAL GLANDS. It is lined by the peritoneum, a membrane covering the cavity's inside wall (parietal peritoneum) and each organ or structure in it (visceral peritoneum). Disorders include ascites (fluid in the peritoneal cavity) and PERITONITIS.

abdominal muscle Any of the muscles of the front and side walls of the ABDOMINAL CAVITY. Three flat layers — the external oblique, internal oblique, and transverse abdominis muscles — extend from each side of the spine between the lower ribs and the hipbone. The abdominal muscles attach to aponeuroses, connective tissue sheaths that merge toward the midline, sheathing the rectus abdominis muscle on each side of the midline. The abdominal muscles support and protect the internal organs and take part in exhaling, coughing, urinating, defecating, childbirth, and motion of the trunk, groin, and lower limbs.

'Abduh, Muḥammad Egyptian religious scholar, jurist, and liberal reformer. As a student in Cairo, he came under the influence of JAMĀL AL-DĪN AL-AFGHĀNĪ. He was exiled for political radicalism (1882–88); he began his judicial career when he returned to Egypt. He rose from judge to mufti (legal counselor) in 1899. In his *Treatise on the Oneness of God*, he argued that ISLAM was superior to CHRISTIANITY because it was more receptive to science and civilization. He liberalized Islamic law and administration, promoting considerations of equity, welfare, and common sense, even when this meant disregarding the literal texts of the Qur'ān.

Abdul Kamal, A(vul) P(akir) J(ainulabdeen) (born Oct. 15, 1931, Rameswaram, India) Indian president (from 2002). After graduating from the Madras Institute of Technology, Kamal played a leading role in the development of India's missile and nuclear weapons programs. He planned a program that produced a number of successful missiles, helping earn him the nickname "Missile Man." Beginning in the early 1990s he also served as scientific adviser to the government, and his prominent role in India's 1998 nuclear weapons tests established Kalam as a national hero. In 2002 the pro-Hindu National Democratic Alliance nominated Kalam, a Muslim, to succeed outgoing President K.R. NARAYANAN. Kalam easily won the elections in 2002, and in the largely ceremonial post he sought to use science and technology to transform India into a developed country.

Abdul Rahman Putra Alhaj, Prince (born Feb. 8, 1903, Alor Star, Kedah, Malaya — died Dec. 6, 1990, Kuala Lumpur, Malaysia) First

prime minister of independent Malaya (1957–63) and then of Malaysia (1963–70). He was educated in England and served in the Malayan Federal Legal Department (1949–51) before pursuing a career in politics. As president of the United Malays National Organization, Abdul Rahman brought Chinese and Indian political groups into the Alliance Party, which won an overwhelming majority in the 1955 election. He negotiated for Malayan independence from Britain (achieved in 1957); the federation of Malaysia was formed in 1963.

Abdülhamid II (born Sept. 21, 1842, Constantinople — died Feb. 10, 1918, Constantinople) Sultan (1876–1909) of the OTTOMAN EMPIRE under whose rule the TANZIMAT reform movement reached its climax. After initially promoting the first Ottoman constitution (primarily to ward off foreign intervention), he suspended it 14 months later and ruled thereafter as a despot. He used Pan-Islamism to rally Muslim opinion outside his empire; the Hejaz Railway was built with foreign contributions. Discontent with his absolutist rule and resentment over European intervention in the Balkans resulted in his overthrow by the YOUNG TURKS in 1908. See also MUSTAFA KEMAL ATATÜRK; ENVER PASHA; MIDHAT PASHA.

Abdul-Jabbar, Kareem *orig.* (Ferdinand) Lew(is) Alcindor (born April 16, 1947, New York, N. Y., U.S.) U.S. basketball player. During his college career at UCLA, the team lost only two games, and he led it to three national championships (1966–68). He then joined the Milwaukee Bucks; in 1975 he was traded to the Los Angeles Lakers. Standing 7 ft 13/8 in. (2 m 17 cm), he was the dominant centre of his time and helped his teams to six NBA titles. By the time he retired in 1989, he had scored a record 38,387 points. He also set the record for most field goals (15,837) and most minutes played (57,446). He was voted Most Valuable Player a record six times.

Abdullahi See ABD ALLAH

Abel See CAIN AND ABEL

Abelard, Peter /ˈæbəlɑːd/ (born 1079, Le Pallet, near Nantes, Brittany — died April 21, 1142, Priory of Saint-Marcel, near Chalon-sur-Saône, Burgundy) French theologian and philosopher. The son of a knight, he abandoned his inheritance to study philosophy. He became private tutor to Héloïse, niece of a canon in Paris, c. 1114. They fell in love; Héloïse became pregnant, and they married secretly. Her uncle had Abelard castrated, after which he became a monk and Héloïse became a nun. Abelard's *Theologia* was condemned as heretical in 1121. He accepted election as abbot of a monastery in Brittany in 1125, but his relations with the community deteriorated and he had to flee for his life. From c. 1135 Abelard taught at Mont-Sainte-Geneviève, where he wrote *Ethica*, in which he analyzed the notion of sin. In 1140 he was again condemned for heresy, and he withdrew to the monastery at CLUNY. His influential *Sic et non*, a collection of apparently contradictory writings by church fathers on various topics, was intended to bring readers to the truth by wrestling with divergent opinions. He also wrote an autobiography, *Historia calamitatum*, and his best-known work is the series of letters he exchanged with Héloïse after they retired to monasteries.

Abenaki or **Abnaki** Confederacy of ALGONQUIAN-speaking North American Indian peoples living mostly in Quebec, Can., and Maine, U.S. The contemporary Abenaki consider their home territory to be southern Quebec and the U.S. states of Vermont and New Hampshire, as well as parts of Maine and New York. Their name means “people of the dawn” or “easterners.” The name is applied to a number of groups — including Androscoggin, Kennebec, Maliseet, Ouarastegouiak, Passamaquoddy, Patsiquet, Penobscot, Pigwacket, Micmac, Pennacook, Rocameca, Sokoni, and Wewenoc — who formed the Abenaki confederation in order to resist the IROQUOIS CONFEDERACY, especially the Mohawk. In the 17th century the Abenaki sided with the French against the English, but, after severe defeats, they withdrew to Canada, many eventually settling at Saint-François-du-Lac and Becancour, near Trois-Rivières, in Quebec. There are also reservations in Maine and in New Brunswick, Can. The total population of Abenaki is about 12,000.

Abeokuta /ˈæbiːˈəʊkʊtə/ City (pop., 1996 est., 424,000), southwestern Nigeria. Located about 60 mi (96 km) north of LAGOS, Abeokuta was established c. 1830 as a refuge from slave hunters. It was the chief town of the Egba, who long maintained a working relationship with the British; not until 1914 was it incorporated into British Nigeria. The modern town is an agricultural and exporting centre.

Aberdeen /ˈæbədiːn/ City, council area (pop., 2001; 212,125), and commercial port on the North Sea, eastern Scotland. It constitutes the council area of Aberdeen, an enclave within the surrounding council area of Aberdeenshire, which was also the name of the historic county of which Aberdeen was the seat. Situated at the mouths of the Rivers Dee and Don, it is the chief port of northern Scotland. It was a royal burgh from the 12th century and a Scottish royal residence in the 12th–14th centuries. It supported ROBERT THE BRUCE in wars for Scottish independence, and for a time it was the headquarters of EDWARD I. From the 1970s Aberdeen developed rapidly as the principal British centre of the North Sea oil industry and its associated service and supply industries.

Aberdeen, George Hamilton-Gordon, 4th earl of (born Jan. 28,

1784, Edinburgh, Scot. — died Dec. 14, 1860, London, Eng.) British foreign secretary and prime minister (1852–55). As special ambassador to Austria in 1813, he helped form the coalition that defeated NAPOLEON. As foreign secretary (1828–30, 1841–46), he settled boundary disputes between Canada and the U.S. with the WEBSTER-ASHBURTON TREATY and the Oregon Treaty (see OREGON QUESTION). As prime minister, he formed a coalition government, but his indecision hampered peacekeeping efforts and led to Britain's involvement in the CRIMEAN WAR. Constitutionally responsible for the mistakes of British generals in the war, he resigned in 1855.

Aberhart, William (born Dec. 30, 1878, Kippen, Ont., Can. — died May 23, 1943, Vancouver, B.C.) Canadian politician and the country's first SOCIAL CREDIT PARTY premier (Alberta, 1935–43). Aberhart was a high school principal in Calgary, Alta. (1915–35). An active lay preacher, he founded the Calgary Prophetic Bible Institute (1918). In 1932 he used his evangelical rhetoric to promote monetary-reform theories to solve the economic problems created in Alberta by the Great Depression, proposing to issue dividends (social credit) to each person, based on the real wealth of the province. When his party won a majority in the 1935 provincial election, he became premier and minister of education, but his social-credit proposals were disallowed by the federal government.

Abernathy, Ralph David /ˈæbəneθi/ (born March 11, 1926, Linden, Ala., U.S. — died April 17, 1990, Atlanta, Ga.) U.S. pastor and civil rights leader. He was educated at Alabama State University and Atlanta University. Ordained a Baptist minister in 1948, he became pastor of the First Baptist Church in Montgomery, Ala., in 1951. He met MARTIN LUTHER KING, JR., a few years later when the latter became pastor of another Baptist church in Montgomery. In 1955–56 the two men organized a nonviolent boycott of the city bus system, marking the beginning of the U.S. CIVIL RIGHTS MOVEMENT. In 1957 they founded the SOUTHERN CHRISTIAN LEADERSHIP CONFERENCE. Abernathy became its president on King's assassination in 1968; in 1977 he resigned to resume work as a pastor in Atlanta. His autobiography, *And the Walls Came Tumbling Down*, appeared in 1989.

aberration /æbəˈreɪʃən/ Deviation of light rays by LENSES or mirrors which causes the images to be blurred. Spherical aberration occurs because curvature in a lens or mirror causes rays falling on the outer edges to be brought to a focus at a different point from those from the middle. This makes the images formed appear blurred. Chromatic aberration, which occurs in lenses but not mirrors, is the failure of a lens to focus all colours (WAVELENGTHS) of light in the same plane; the image appears blurred and shows rainbow-coloured fringes around the edges. See also ASTIGMATISM.

aberration of starlight Apparent displacement of a star or other celestial body resulting from Earth's orbital motion around the Sun. The maximum displacement is about 20.49 seconds of arc. It depends on the ratio of Earth's orbital speed to the speed of LIGHT and Earth's direction of motion and thus provides confirmation that Earth orbits the Sun rather than the reverse.

Aberystwyth Town (pop., 1991; 11,154) on CARDIGAN BAY, western Wales. The medieval walled town was built around a 13th-century fortress. It later became the exporter for the once-flourishing local lead mines. A principal stronghold of Welsh culture, it has grown as a seaside resort.

Abhayagiri THERAVADA Buddhist monastic center built at Anuradhapura, then capital of Ceylon, by King Vattagamani Abhaya (r. 29–17 BC). Originally associated with the nearby Mahavihara (“Great Monastery”), it soon seceded in a dispute over the relations between monks and the lay community and the use of Sanskrit works to augment Pali texts as scripture. It gained wealth and power under the patronage of Gajabahu I (AD 113–35) and flourished until Anuradhapura was abandoned in the 13th century. Two of its main colleges operated into the 16th century.

Abhidhamma Pitaka Third and latest collection of texts comprising the Pali canon (see TRIPITAKA) of THERAVADA Buddhism. The first two collections, SUTTA PITAKA and VINAYA PITAKA, are attributed to the BUDDHA. Abhidhamma Pitaka texts are ascribed to later disciples and scholars; they deal with ethics, psychology, and epistemology.

Abhidharmakosa Buddhist scholarly work that provides an introduction to the seven Abhidharma treatises in the SARVASTIVADA canon and a digest of their contents. It was composed by the Buddhist monk Vasubandhu (fl. 4th or 5th century), who lived in northwestern India. It systematizes Sarvastivada doctrine and shows the influence of MAHAYANA, to which Vasubandhu later converted. It provides much information on doctrinal differences among the ancient Buddhist schools.

abhiḥina In Buddhist philosophy, the miraculous powers obtained through meditation and wisdom. They include the ability to travel any distance or take any form at will, to see everything, to hear everything, to read minds, and to recall former existences. A sixth miraculous power, available only to BUDDHAS and ARHATS (saints), is freedom by undefiled wisdom (Enlightenment). The powers are signs of spiritual progress but their indulgence is a distraction from the path toward Enlightenment.

Abidjan /æbɪ'dʒɑːn/ Largest city (pop., 1999 est.: 3,199,000) and chief port of Côte d'Ivoire. Abidjan was a rail terminus from 1904; after its lagoon was opened to the sea to create a port (1950), the city became the financial centre of FRENCH WEST AFRICA. Though it was once the country's capital and remains its seat of government, the official capital was moved to YAMOUSSOUKRO in 1983. Abidjan has a museum of traditional Ivorian art, a national library, and several research institutes.

Abilene Town (pop., 2000; 6,543), Kansas, U.S. It lies on the Smoky Hill River east of Salina. Settled in 1858, it gained importance when it became the railway terminus for overland Texas cattle drives. With the prosperity of the cattlemen came an era of lawlessness: Wild Bill Hickok was its marshal in 1871. Pres. DWIGHT D. EISENHOWER spent his boyhood there and is buried at the Eisenhower Center, which includes his family home and library.

Abilene City (pop., 2000; 115,930), northwestern Texas, U.S. Founded in 1881 as the new railroad for the overland Texas cattle drives, it took the business of the previous railhead, Abilene, Kan. It is the site of several educational institutions, the West Texas Fair, and the reconstructed Old Abilene Town.

Abnaki /æb'nɑːki/ See ABENAKI

abnormal psychology or **psychopathology** Branch of psychology. It is concerned with mental and emotional disorders (e.g., NEUROSIS, PSYCHOSIS, mental deficiency) and with certain incompletely understood normal phenomena (such as DREAMS and HYPNOSIS). The chief tool used in classifying psychological disorders is the American Psychiatric Assn.'s *Diagnostic and Statistical Manual of Mental Disorders* 4th edition (DSM-IV).

ABO blood-group system Classification of human BLOOD according to whether red blood cells (ERYTHROCYTES) have or lack the inherited ANTIGENS called A (including A1 and A2) and B on their surface. Blood can be type O (lacking both), type A (having only A), type B (having only B), or type AB (having both). The ABO antigens make certain blood types incompatible for transfusion. They are developed well before birth and remain through life. The frequencies of blood groups vary among different racial groups and in different geographic areas. Certain diseases are rarer in persons with particular blood groups.

abolitionism /æbəlɪ'fɪnɪzəm/ (c. 1783–1888) Movement to end the SLAVE TRADE and emancipate slaves in western Europe and the Americas. The slave system aroused little protest until the 18th century, when rationalist thinkers of the ENLIGHTENMENT criticized it for violating the rights of man, and Quaker and other evangelical religious groups condemned it as un-Christian. Though antislavery sentiments were widespread by the late 18th century, they had little immediate effect on the centres of slavery themselves — the West Indies, South America, and the southern U.S. In 1807 the importation of African slaves was banned in the U.S. and the British colonies. Slavery was abolished in the British West Indies by 1838 and in the French possessions 10 years later. In the 11 Southern states of the U.S., however, slavery was a social and economic institution. American abolitionism laboured under the handicap that it threatened the harmony of North and South in the Union, and it also ran counter to the U.S. Constitution, which left the question of slavery to the individual states. The abolitionist movement in the North was led by agitators such as WILLIAM LLOYD GARRISON, founder of the AMERICAN ANTI-SLAVERY SOCIETY, writers such as JOHN GREENLEAF WHITTIER, former slaves such as FREDERICK DOUGLASS, and HARRIET BEECHER STOWE. The election of ABRAHAM LINCOLN, who opposed the spread of slavery to the West, marked a turning point in the movement. Convinced that their way of life was threatened, the Southern states seceded from the Union (see SECESSION), which led to the AMERICAN CIVIL WAR. In 1863 Lincoln (who had never been an abolitionist) issued the EMANCIPATION PROCLAMATION, which freed slaves held in the Confederate states; the 13th Amendment to the U.S. Constitution (1865) prohibited slavery throughout the country. Slavery was abolished in Latin America by 1888. In some parts of Africa and in much of the Islamic world, it persisted as a legal institution well into the 20th century.

Abominable Snowman *Tibetan Yeti* Mythical monster believed to inhabit the HIMALAYAS near the snow line. The Yeti is thought to resemble an oversized man covered with shaggy fur. Reported sightings are rare; evidence of its existence consists largely of unusual footprints left in the snow, probably the tracks of bears. At certain gaits, bears place the hindfoot partly over the imprint of the forefoot, thus creating tracks that resemble the footprints of a very large primate heading in the opposite direction.

Aborigine /æbə'rɪdʒɪn/ See AUSTRALIAN ABORIGINAL

abortion /ə'bɔːʃən/ Expulsion of a fetus from the uterus before it can survive on its own. Spontaneous abortion at earlier stages of pregnancy is called MISCARRIAGE. Induced abortions often occur through intentional medical intervention and are performed to preserve the woman's life or health, to prevent the completion of a pregnancy resulting from rape or incest, to prevent the birth of a child with serious medical problems, or because the woman does not believe she is in a position to rear a child

properly. The drug RU-486, if taken within a few weeks of conception, will trigger a miscarriage. Up to about 19 weeks of pregnancy, injections of saline solutions or hormones may be used to stimulate uterine contractions that will expel the fetus. Surgical removal of the contents of the uterus may be performed in the second trimester or later. Intact dilation and extraction procedures may occur in the third trimester; sometimes critically referred to as "partial-birth abortions," they have been very controversial. Other abortion procedures include manual vacuum aspiration (extraction by manual syringe) and dilation and suction curettage (extraction by machine-operated suction), both of which can be performed in early pregnancy. The social acceptability of abortion as a means of population control has varied from time to time and place to place throughout history. It was apparently a common method of family limitation in the Greco-Roman world, but Christian theologians early and vehemently condemned it. It became widely accepted in Europe in the Middle Ages. Severe criminal sanctions to deter abortion became common in the 19th century, but in the 20th century those sanctions were gradually modified in many countries. In the U.S. the 1973 ROE v. WADDE decision had the effect of legalizing abortion during the first three months of pregnancy; states were able to implement restrictions on access to abortion after the first trimester, though within constraints set by the courts. Since that decision, there has been a fierce debate between supporters and opponents of a liberalized abortion policy.

Abraham /'æbrəhæm,-həm; 'ɑːb-/ (flourished early 2nd millennium BC) First of the Hebrew PATRIARCHS, revered by JUDAISM, CHRISTIANITY, and ISLAM. GENESIS tells how Abraham, at 75, left UR with his barren wife, Sarai (later SARAH), and others to found a new nation in CANAAN. There God made a COVENANT with him, promising that his descendants would inherit the land and become a great nation. Abraham fathered Ishmael by Sarai's maidservant Hagar; Sarah herself bore Isaac, who inherited the covenant. Abraham's faith was tested when God ordered him to sacrifice Isaac; he was prepared to obey but God relented. In Judaism he is a model of virtue, in Christianity he is the father of all believers, and in Islam he is an ancestor of MUHAMMAD and a model (in SUFISM) of generosity.

Abraham, Karl (born May 3, 1877, Bremen, Ger. — died Dec. 25, 1925, Berlin) German psychoanalyst. He helped establish the first branch of the International Psychoanalytic Institute in 1910 and pioneered the psychoanalytic treatment of manic-depressive psychosis (bipolar disorder). He suggested that the sexual drive develops in six stages and that if development is arrested at any of the earlier stages, mental disorders will likely result from fixation at that level. His most important work was *A Short Study of the Development of the Libido* (1924).

Abraham, Plains of Plateau located southwest of the old walled city of QUEBEC, Canada. On September 13, 1759, it was the scene of the decisive battle of the FRENCH AND INDIAN WAR, in which the British under JAMES WOLFE defeated the French under the Marquis de MONTCALM. U.S. forces held the plateau (1775–76) in their siege of Quebec during the AMERICAN REVOLUTION. It is now a park within Quebec city limits.

abrasion platform See WAVE-CUT PLATFORM

abrasives Sharp, hard materials used to wear away the surface of softer, less resistant materials. Abrasives are indispensable to the manufacture of the highly precise components and ultrasmooth surfaces required in the manufacture of automobiles, airplanes and space vehicles, mechanical and electrical appliances, and machine tools. Abrasives may be natural (e.g., DIAMOND, CORUNDUM, EMERY) or synthetic (e.g., silicon CARBIDE or CARBORUNDUM, synthetic diamond, alumina — a synthetic form of corundum). They range from the relatively soft particles used in household cleansers and jeweler's polish to diamonds.

Abruzzi /ə'brʊtʃɪ/ Autonomous region (pop., 2001 prelim.: 1,244,226), central Italy. Its capital is L'AQUILA. Most of the region is mountainous or hilly and includes the APENNINES. The ancient Italic tribes of the region long resisted conquest by the Romans. The Normans established themselves in the 12th century, and the region later sided with the HOHENSTAUFENS against the papacy. As Abruzzi e Molise, the area became part of the Kingdom of Italy in 1861; in 1965 it was divided into the separate regions of Abruzzi and MOLISE. The economy is primarily agricultural.

Abalom /'æbsələm/ (flourished c. 1020 BC, Palestine) In ancient Israel, the third and most beloved son of DAVID. His story is told in 2 Samuel 13–19. An attractive but lawless man, he killed his half brother Amnon as revenge for the latter's rape of Tamar, Abalom's sister, and was banished from the kingdom for a time. He later raised a rebellion against his father, capturing Jerusalem but meeting defeat in the forest of Ephraim, where he was killed by his cousin Joab, who found him caught by the hair in an oak tree. Despite Abalom's treachery, David greatly lamented his son's death.

Absaroka Range Range of the ROCKY MOUNTAINS in the U.S. It extends from southern Montana across YELLOWSTONE NATIONAL PARK into northwestern Wyoming, crossing portions of Gallatin, Shoshone, and Custer