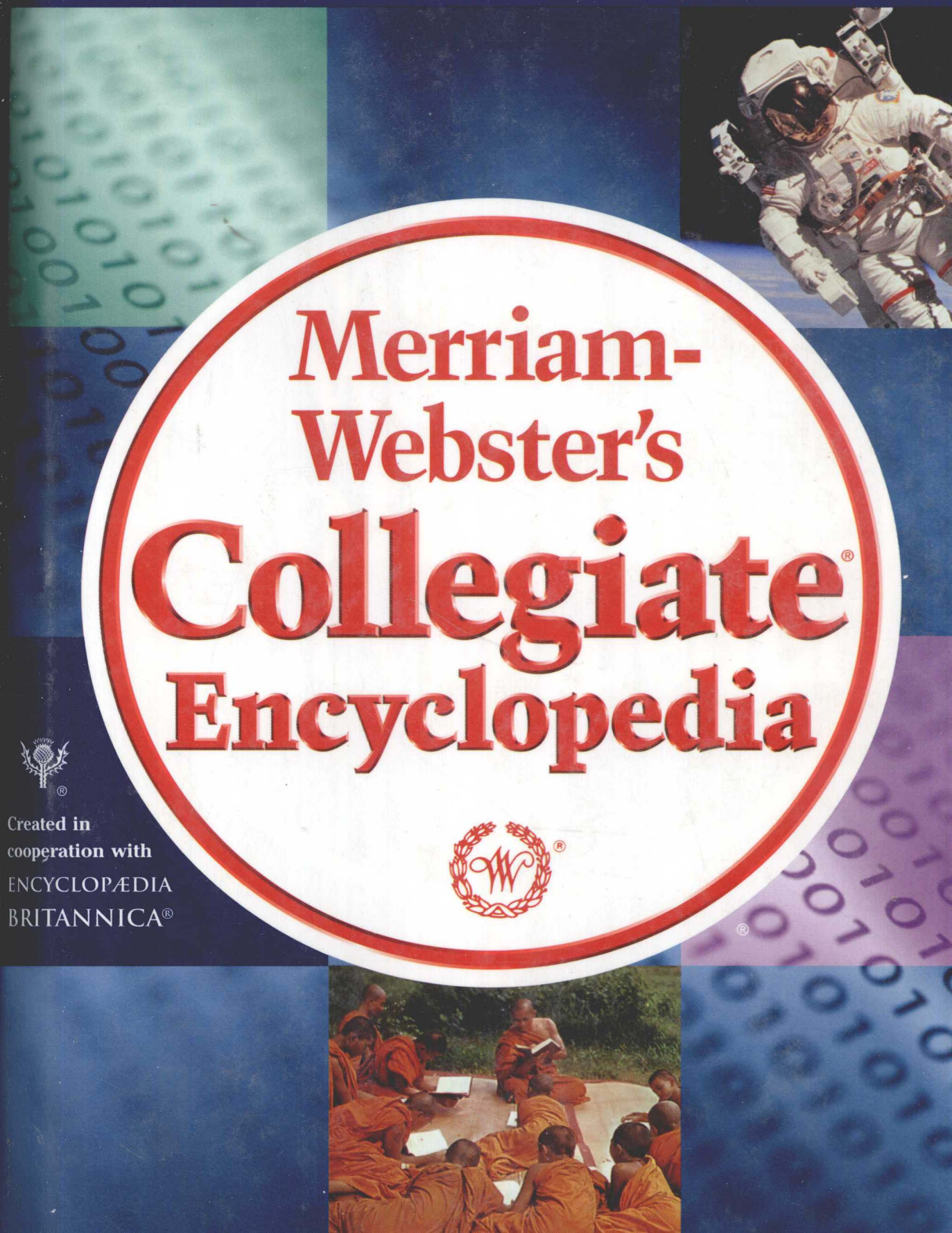
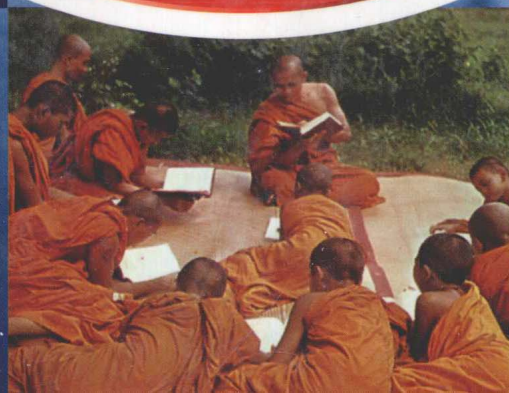
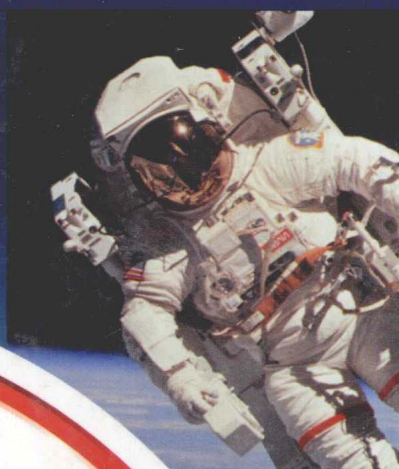


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# Merriam- Webster's<sup>®</sup> Collegiate Encyclopedia



Merriam-Webster, Incorporated  
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*Other Contributors*

Tech-Graphics Corporation of Atlantic Highlands, N.J., produced the encyclopedia's diagrams. John Nelson at Encyclopaedia Britannica provided its maps. Susana Darwin and Amor Montes de Oca selected and prepared the photographs from the Encyclopaedia Britannica collection. Mark Diller drew up the religion entry list. Ellen Sullivan Farley and Loree Hany assisted in technical preparation of the art. Dale Good served as consultant on project management. Ted Atanowski provided computer assistance. The text was typeset by the Clarinda Co. of Clarinda, Iowa, under the exemplary direction of Dee Hughes. Finally, John M. Morse, who conceived the encyclopedia more than 20 years before its publication, offered indispensable support and encouragement throughout its development.

# Publisher's Foreword

The publication of MERRIAM-WEBSTER'S COLLEGIATE ENCYCLOPEDIA is a noteworthy event in the history of the Merriam-Webster publishing program. At its simplest, it marks the introduction of an important new reference resource that we believe will become a widely used and frequently consulted fixture of the standard reference shelf. It also marks the completion of another successful collaboration between the Merriam-Webster and Encyclopaedia Britannica editorial staffs, a collaboration that has already produced the respected *Merriam-Webster's Geographical Dictionary*, *Merriam-Webster's Biographical Dictionary*, *Merriam-Webster's Encyclopedia of Literature*, and *Merriam-Webster's Encyclopedia of World Religions*. However, this event is also noteworthy for two other reasons that may be less apparent.

First, this publication marks the addition of a new title to the *Collegiate* line of reference products, a line that began in 1898 with the publication of *Merriam-Webster's Collegiate Dictionary*. Not until 1976, more than 75 years later, was *Merriam-Webster's Collegiate Thesaurus* added to the line. Now, nearly 25 years later, a third title has been added. Over its century-long history, the *Collegiate* name has come to stand for the very highest quality in reference-book publishing, and we do not add the

name to a book lightly. However, in this case, the decision was easy. It is fully appropriate that this new work, with its comprehensive scope, rigorous concision, and high standards of accuracy, clarity, and currency should incorporate the name *Collegiate* in its title.

The final noteworthy aspect of this publication is that it marks the first time in its history that Encyclopaedia Britannica's Board of Directors has approved the creation of a general one-volume encyclopedia based on the magnificent 32-volume *Encyclopaedia Britannica*. In agreeing to the project, they showed their confidence in the editorial team that would create it, and those of us who have been involved in the undertaking thank them for their decision. Having unfettered access to what is incomparably the most comprehensive and authoritative general encyclopedia of the English-speaking world and to the seasoned editorial expertise of its staff made the project possible and made the creation of this new encyclopedia a pleasure to be a part of.

We believe this volume will justify the faith that Encyclopaedia Britannica has shown, and we offer it to the reading public in the confidence that it will serve their needs well in the years to come.

John M. Morse  
President and Publisher

# Preface

MERRIAM-WEBSTER'S COLLEGIATE ENCYCLOPEDIA is the first general encyclopedia to be published by Merriam-Webster, and, with over 25,000 brief articles and over 2.5 million words of text, the most substantial desk encyclopedia ever published in America. It is the first one-volume encyclopedia to be based firmly on *Encyclopaedia Britannica*, and it shares much of its title with Merriam-Webster's renowned *Collegiate Dictionary*; both served as constant reminders of the standard of quality to which we were committed.

Despite the boon conferred by license to rely on *Encyclopaedia Britannica*'s prose, factual content, and structure, the number and diversity of issues that had to be confronted in creating the new work were substantial, and the project required over three years of work and the contributions of more than a hundred people.

The quality and currency of the encyclopedia's entries owe considerably to its academic consultants, a group that includes many who have distinguished themselves as the editors of specialized encyclopedias or dictionaries in their own fields and some who have published introductory college textbooks, and their collective contribution, both in producing the entry list and in reviewing the articles, was of enormous value.

The articles range in length from about 40 to about 700 words, their mean length being approximately 105 words; even the shortest consist of more than a mere dictionary definition. Despite their basis in *Britannica*, most of the prose is new, as an inevitable result of the radical abridgment of the text of the much larger work. Abridgment has also dictated heavy reliance on cross-references, whereby, to avoid the need to discuss a term introduced in a given article, the reader is generally sent by a cross-reference symbol to an article devoted to the term.

Some readers will wonder about the criteria that determined the selection of entries. Entries were largely chosen by the consultants from those in *Encyclopaedia Britannica*, whose entry list of over 75,000 articles has been refined through many editions over many decades. Further articles were added as writers, editors, and consultants discovered gaps in their subject fields, especially when a term or name introduced in a given article was seen to require either glossing or, preferably, a cross-reference to another ar-

title, and it was discovered that no such article existed. The list was further augmented by a variety of means, including perusal of diverse reference volumes, solicitation of entry nominees from Merriam-Webster's editorial staff, and ongoing alertness to topics in the news.

The encyclopedia has been written not only for the college student (as its name suggests) but also for upper-level high-school students and especially for the general adult public—in other words, for the same audience that has relied on the *Collegiate Dictionary* for over a century. It is intended for the newspaper reader curious about the history of the *Fatah* movement or *Doctors Without Borders*, the graduate student who needs a complete chronology of the rulers of the *Byzantine empire* or a table of the *Greek alphabet*, and the journalist checking the essential facts about *La Niña* or the *fuel cell*. It will aid the magazine reader who runs across a reference to *Babe Didrikson Zaharias* or *Jacqueline Cochran*, the film buff checking the pronunciation of *Jean-Louis Trintignant* or *Max von Sydow*, the armchair historian who happens on an allusion to the *Oneida Community* or *Brook Farm*, the computer amateur seeking a basic definition of *Linux* or *Perl*, and the dinner-table group arguing about *habeas corpus* or the *Sacco-Vanzetti* case. The science-history reader seeking a short list of the achievements of *Luis Alvarez* or *Richard Feynman* can rely on the same source as the opera fan wondering about the historical *Faust* or *Boris Godunov*, the writer confirming a fact about *Aimee Semple McPherson* or the *Church of Scientology*, the liberal-arts student curious about the history of the *Frankfurt school* or the scope of *critical theory*, and the reader of a novel of the Middle Ages who encounters a reference to *Prester John* or *Pope Joan*. All will succeed in locating a brief, cogent, and accurate quantum of information on a given subject in less time than it would take to boot up a computer.

We hope this volume, despite its modest size, will nevertheless manage to achieve for many of its users the traditional aims of the great encyclopedias—that is, to replace idle conjecture with solidly researched fact, to supply a framework for the entire range of human knowledge, and to enrich the reader's learning in ways likely to lead down any of a variety of paths to still broader knowledge.

Mark A. Stevens  
Editor

# Explanatory Notes

**Alphabetization** Following the basic principle employed in Merriam-Webster's dictionaries, the articles are alphabetized letter-by-letter, with any spaces between words being ignored. Entries with a comma indicating an inversion of the headword (as in *Vienna, University of*) precede entries in which the same initial word or combination of words is followed by another word without an intervening comma (e.g., *Vienna Circle*). The following ordering illustrates the letter-by-letter principle:

Bird, Larry  
birding  
bird-of-paradise  
bird of prey  
Birdseye, Clarence  
bird's-foot trefoil  
birdsong  
bird stone

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 *orig.* precedes the birth name of a person who is entered under a name that was adopted or acquired subsequently. 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 per-

son 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 or 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, or translations of titles or epithets. 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.

**Khoikhoi or Khoikhoi formerly Hottentots**

**Hoffa, Jimmy** (*orig.* James Riddle)

**Frederick II German Friedrich** *known as Frederick the Great*

**Murdoch, (Jean) Iris** (*later Dame Iris*)

**Ankara** *formerly Angora*

**Libya** *officially Socialist People's Libyan Arab Jamahiriya*

**EPROM** *in full erasable programmable read-only memory*

**Eliot, T(homas) S(tearns)**

**Radetzky, Joseph, Graf (Count)**

**Charles Martel** *Latin* Carolus Martellus ("Charles the Hammer")

**Stowe, Harriet Beecher** *orig.* Harriet Elizabeth Beecher

**Le Corbusier** *orig.* Charles-Édouard Jeanneret

**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., *Engl, Fr, Span*). Thus, for Sarah Bernhardt we provide the pronunciations "\ber-'när, *Engl* 'bærn-'härt\." The symbols



employed and the sounds they represent are listed on page xii.

**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 best-established 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 a bullet (•) next to

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 bulleted 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 bulleted. For instance, in the article on Tim Berners-Lee, we have bulleted “World Wide Web” (whose invention was his principal achievement) but not “Internet,” which is naturally bulleted within the “World Wide Web” article. Because cross-reference bulleting of this kind is discretionary, readers should not assume that a noun lacks its own entry simply because it is not bulleted within the article being read.

For the sake of saving space, virtually all people who receive their own entries have their given names abbreviated and their surnames bulleted 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 bulleted, 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	Gen.	General	NW	northwest- ern
Adm.	Admiral	Ger	German	N.W.	Northwest
Ala.	Alabama	Gov.	Governor	N.Y.	New York
Amer.	American	i.e.	id est (that is)	Oct.	October
Apr.	April	Ill.	Illinois	Okla.	Oklahoma
Ariz.	Arizona	in.	inch(es)	Ore.	Oregon
Ark.	Arkansas	incl.	including	orig.	originally
Assn.	Association	Ind.	Indiana	O.S.	Old Style
Aug.	August	Jan.	January	oz	ounce(s)
b.	born	Jap	Japanese	Pa.	Pennsylvania
BC	before Christ	Jr.	Junior	PhD	Doctor of Philosophy
C	Celsius	K	Kelvin	pop.	population
c.	circa	Kan.	Kansas	Pres.	President
Cal.	California	kg	kilogram(s)	r.	reigned, ruled
Capt.	Captain	km	kilometer(s)	Rev.	Reverend
cc	cubic centimeter(s)	kph	kilometers per hour	R.I.	Rhode Island
cent.	century, centuries	Ky.	Kentucky	S.C.	South Carolina
cm	centimeter(s)	La.	Louisiana	S.D.	South Dakota
Co.	Company, County	lb, lbs	pound, pounds	SE	southeastern
Col.	Colorado, Colonel	m	meter(s)	S.E.	Southeast
Conn.	Connecticut	MA	Master of Arts	Sen.	Senator
Corp.	Corporation	Maj.	Major	Sept.	September
cu	cubic	Mar.	March	Span	Spanish
d.	died	Mass.	Massachusetts	sq	square
D.C.	District of Columbia	Md.	Maryland	St.	Saint
Dec.	December	Me.	Maine	SW	south- western
Del.	Delaware	mi	mile(s)	S.W.	Southwest
Dr.	Doctor	Mich.	Michigan	Tenn.	Tennessee
E	eastern	Minn.	Minnesota	U.N.	United Nations
E.	East	Miss.	Mississippi	Univ.	University
ed.	edition	ml	milliliter(s)	U.S.	United States
e.g.	exempli gratia (for example)	mm	millimeter(s)	Va.	Virginia
Engl	English	Mo.	Missouri	vols.	volumes
est.	estimate, estimated	Mont.	Montana	vs.	versus
F	Fahrenheit	mph	miles per hour	W	west western
Feb.	February	Mt.	Mount	W.	West
fl.	flourished	Mtn., Mtns.	Mountain, Mountains	W.V.	West Virginia
Fla.	Florida	N.C.	North Carolina	Wash.	Washington
Fr	French	N.D.	North Dakota	Wisc.	Wisconsin
ft	foot, feet	NE	northeastern	Wy.	Wyoming
Ft.	Fort	N.E.	northeast		
g	gram(s)	Neb.	Nebraska		
Ga.	Georgia	Nev.	Nevada		
		N.H.	New Hampshire		
		N.J.	New Jersey		
		N.M.	New Mexico		
		Nov.	November		

# Pronunciation Symbols

ə	banana, collide, abut, humdrum	ō	bone, know, beau
ə̃	preceding \l, \n, \m, \ŋ, as in battle, mitten, eaten, lock and key \-əŋ-; following \l, \m, \r, as in French table, prisme, titre	ó	saw, all, caught
əɾ	further, merger, bird	œ	French boeuf, German Hölle
a	mat, gag	œ̄	French feu, German Höhle
ā	day, fade, aorta	ò	coin, destroy
ä	bother, cot, father, cart	p	pepper, lip
á	father as pronounced by speakers who do not rhyme it with <i>bother</i> ; French <i>patte</i>	r	red, car, rarity
aù	now, loud, out	s	source, less
b	baby, rib	sh	shy, mission, machine, special
ch	chin, nature \ˈnā-chər\	t	tie, attack, late, latter
d	did, adder	th	thin, ether
e	bet, bed, peck	<u>th</u>	then, either, this
ē	beat, easy	ü	rule, youth, union \ˈyün-yən, few \ˈfyü\
f	fifty, cuff	ù	pull, wood, book
g	go, big	œ	German füllen, hübsch
h	hat, ahead	œ̄	French rue, German fühlen
i	tip, banish	v	vivid, give
ī	site, buy	w	we, away
j	gem, judge	y	yard, cue \ˈkyü, union \ˈyün-yən\
k	kin, cook, ache	y	indicates that during the articulation of the sound represented by the preceding character the front of the tongue has substantially the position it has when pronouncing <i>y</i> , as in French <i>digne</i> \dēnʷ\
<u>k</u>	German <i>ich</i> , <i>Buch</i>	Z	zone, raise
l	lily, pool	zh	vision, azure \ˈa-zhər\
m	murmur, dim	ˈ	precedes a syllable with primary (strongest) stress: \ˈpen-mən-ship\
n	no, own	ˈ	precedes a syllable with secondary (medium) stress: \ˈpen-mən-ship\
n	indicates that a preceding vowel or diphthong is pronounced with the nasal passages open, as in French <i>un bon vin blanc</i> \œ̃ <sup>n</sup> -bō <sup>n</sup> -va <sup>n</sup> -blā <sup>n</sup> \	-	marks syllable division
ŋ	sing \ˈsiŋ, singer \ˈsiŋ-ər, finger \ˈfiŋ-gər, ink \ˈiŋk\	( )	indicate that what is enclosed is pronounced by some but not by others: <i>factory</i> \ˈfak-t(ə)rē\





# A

**Aachen** \ä-kən\ *French Aix-la-Chapelle* \eks-lä-shä-'pel\ City (pop., 1995 est.: 247,000), W Germany, southwest of Cologne. It was inhabited by Romans in the 1st cent. 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 cent.; 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.

**Aaiun**, El See •El Aaiun

**Aalto** \ä'l-tò\, (**Hugo Alvar (Henrik)** (1898–1976) Finnish architect and designer. He graduated from the Technical Institute of Helsinki, and in 1925 married Aino Marsio (d.1949), 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 center at 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** 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), incl. 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** \är-ä\ or **Aar River** River, central and N 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** See •Arhus

**Aaron** (fl.c.13th cent. BC) Brother of Moses and first high priest of ancient Israel. Acting as a spokesman for Moses, he 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 Mt. Sinai receiving the Law from God. His death at 123 is noted in Numbers.

**Aaron, Hank** (*orig.* Henry Louis) (b.1934) U.S. baseball player. Born in Mobile, Ala., he played briefly in the Negro and minor leagues before joining the Milwaukee Braves in 1954. He would play outfield most of his career. By the time the Braves moved to Atlanta in 1965, he had hit 398 home runs; in 1974 he hit his 715th, breaking B. Ruth's record. He played his final two seasons (1975–76) with the Milwaukee Brewers. His records for career home runs (755), extra-base hits (1,477), and runs batted in (2,297) remain unbroken, and only T. Cobb and P. Rose exceeded him in career hits (3,771). He is renowned as one of the greatest hitters of all time.

**AARP** *formerly American Association of Retired Persons* Non-profit, 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 Assn., also founded by Andrus (1947). Its bimonthly magazine, *Modern Maturity*, has the largest circulation of any U.S. periodical. Its membership of more than 30 million and its members' reliably high voting turnout have made it one of the most powerful lobbying groups in the U.S.

**abacus** 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 cent., it is still used in the Middle East, China, and Japan.

**Abahai** See •Hongtaiji

**Abakanowicz** \ä-bä-'kän-ò-wits\, **Magdalena** (b.1930) 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. She has taught in Poznan since 1965.

**abalone** \ä-bə-'lò-nè\ 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 S. Africa.

**Abate, Niccolò dell'** See N. dell'Abbate

**Abbadò** \ä-'bä-dò\, **Claudio** (b.1933) Italian conductor. Born in Milan, he studied piano at its conservatory before beginning to conduct in Vienna. He was long associated with La Scala (1968–86), as principal conductor and ultimately as artistic director, as well as with the Vienna Philharmonic. In 1989 he succeeded H. von Karajan as permanent conductor and artistic director of the Berlin Philharmonic. He is known for his commitment to adventurous programming, incl. much modern music.

**Abbas, Ferhat** (1899–1985) 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 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.

**Abbas I** *known as Abbas the Great* (1571–1629) Shah of Persia 1587–1629. Succeeding his father, Sultan Muhammad Shah, he strengthened the Safavid dynasty by expelling Ottoman and Uzbek troops and creating a standing army. He made Esfahan Persia's capital, and under Abbas it became one of the world's most beautiful cities. Persian artistic achievement reached a high point during his reign, when 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 and ruthlessness led him to blind or execute many of his immediate family.



**Abbas I** Painting, Mughal school of Jahangir, c.1620

**Abbas Hilmy I** \äb-'bas-'hil-mè\ (1813–1854) Viceroy of Egypt (1848–54) under the Ottoman empire. He succeeded his uncle, Ibrahim, and worked to undo the Westernizing reforms begun by his grandfather, Muhammad Ali. He distrusted the French, who had worked closely with his grandfather. Though he op-

posed Ottoman-imposed reforms, he sent troops to help the Ottomans in the Crimean War (1853) and in 1851 granted the British the right to construct a railroad between Alexandria and Cairo, thus countering the French-inspired Suez Canal project. He died when strangled by two servants at his palace in Banha.

**Abbasid dynasty** \ə-ˈbā-səd\ (750–1258) Second dynasty of the Muslim Empire of the Caliphate, succeeding the Umayyad dynasty. It was named after al-Abbas (566–c.633), uncle of Muhammad, from whom all its caliphs were descended. The Abbasids refocused their attention to the east of Arabia, moving the capital city to Baghdad and taking over much of the Persian tradition of government. Under their rule, Arab culture and empire reached new heights and Islam gained non-Arab converts. The greatest Muslim contributions to science and philosophy were made during this period, sometimes regarded as the golden age of Islam. The Abbasids' hold on power began to weaken when non-Muslim mercenaries were recruited into the army and invaders from the east demanded civil autonomy for areas they controlled. Gradually the caliphate's power became largely spiritual. The dynasty fell to the Mongols after a siege of Baghdad.

**Abbate** \äb-ˈbä-tä-, **Niccolo dell' or Niccolo dell'Abate** (1509/12–1571) 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 N. Poussin.

**Abbe** \äb-ē-, **Cleveland** (1838–1916) U.S. meteorologist. Born in New York City, 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** 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 E side of the cloister and linked to the central church. The W side of the cloister provided for public dealings, with the gatehouse controlling the only opening to the outer, public courtyard. On the S 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 cent., many abbeys were built throughout Europe, especially in France.

**Abbey, Edward** (1927–1989) U.S. writer and environmentalist. Born in Home, Pa., he earned degrees from the Univ. of New Mexico, then worked as a park ranger and fire lookout for the National Park Service. He wrote on consumer culture's encroachment on the wilderness of SE Utah in *Desert Solitaire* (1968). His 1975 novel *The Monkey Wrench Gang*, describing the exploits of a band of guerrilla environmentalists, inspired numerous real-life activists. His many other works include its posthumously published sequel, *Hayduke Lives!* (1990).

**Abbey Theatre** Dublin theater. It developed from the Irish Literary Theatre, founded in 1899 by W. B. Yeats and Lady A. Gregory to foster Irish drama. After moving the troupe to a renovated theater on Abbey Street in 1904, they codirected its productions with J. M. Synge, staged their own plays, and commissioned works by S. O'Casey and others. Important premieres included Synge'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 theater in the English-speaking world in 1924. A fire destroyed the original playhouse in 1951, and a new theater was built in 1966.

**Abbott, Berenice** (1898–1991) U.S. photographer. Born in Springfield, Ohio, she left in 1918 to study in New York, Paris, and Berlin. In Paris she became an assistant to M. Ray and E. 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 neighborhoods for the WPA Federal Art Project, documenting its

changing architecture; many of the photographs were published in *Changing New York* (1939).

**Abbott, George (Francis)** (1887–1995) U.S. theater director, producer, and playwright. Born in Forestville, N.Y., he began his career in 1913 as an actor in Broadway plays. He began writing and directing plays, achieving the first of many hits with *The Fall Guy* (1925). He also wrote, directed, or produced the popular musicals *The Boys from Syracuse* (1938), *Pal Joey* (1940), *Where's Charley* (1948), *Wonderful Town* (1953), and *Damn Yankees* (1955). He was active in the theater into the 1980s, directing a revival of *On Your Toes* at age 95.

**Abbott, Grace** (1878–1939) U.S. social worker, public administrator, educator, and reformer. Born in Grand Island, Neb., she did graduate work at the Univ. of Chicago and began working at J. Addams's Hull House in 1908. That same year she cofounded the Immigrants' Protective League in Chicago. As director of the U.S. Children's Bureau 1921–34, she fought to end child labor through legislation and federal contract policies, and proposed a constitutional amendment prohibiting child labor. Her best-known book is *The Child and the State* (2 vols., 1938).

**Abbott, John (Joseph Caldwell) (later Sir John)** (1821–1893) Canadian prime minister (1891–92). Born in St. Andrews, Lower Canada (now St.-André-Est, Quebec), he practiced law from 1847 and became dean of McGill Univ. law school (1855–80). He was elected to the legislative assembly (1857–74, 1880–87). In 1887 he was appointed to the Senate and became government leader. After J. Macdonald's death, Abbott became the compromise choice for prime minister. Ill health forced his resignation in 1892.

**Abbott, Lyman** (1835–1922) U.S. minister. Born in Roxbury, Mass., son of the writer Jacob Abbott (1803–1879), he studied law and theology and in 1881 became editor in chief of H. W. Beecher's weekly *Christian Union*. In 1888 he succeeded to Beecher's pulpit in Brooklyn. A leading exponent of the Social Gospel movement, he worked to apply Christianity to social and industrial problems, rejected both socialism and laissez-faire economics, and sought to interpret rather than condemn the effect of the theory of evolution on religion, in such books as *Christianity and Social Problems* (1897).

**Abbott and Costello** U.S. comedy team, prominent in vaudeville from 1931 and on radio from 1938. Bud (orig. William Alexander) Abbott (1895–1974) was born in Asbury Park, N.J.; Lou (orig. Louis Francis) Costello (1906–1959) was born in Woodland Hills, Cal. Their first successful film, *Buck Privates* (1941), was followed by over 30 other slapstick comedies, with tall, thin Abbott playing straight man to short, plump Costello, the buffoon. Their famous routine "Who's on First?" was first performed in the film *The Naughty Nineties* (1945). The collaboration ended in 1957.

**abbreviation** Shortened form of a written word or phrase used in place of the whole. Abbreviations have proliferated in the 19th and 20th cent.; 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 an initialism in which the letter names are pronounced individually (e.g., TV or FBI) or 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-Krim** \äb-däl-ˈkrēm\ in full Muhammad ibn Abd al-Karim al-Khattabi (1882–1963) Berber resistance leader against Spanish and French rule in N Morocco. As 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 France and Spain amassed 250,000 men to force his surrender. Exiled to Réunion, in 1947 he received permission to live in France, but took asylum in Egypt while en route to France. When Morocco became independent (1956), Muhammad V invited him to return, but he refused because of the continued presence of French troops in N. Africa.

**Abd Allah (ibn Muhammad al-Taiishi)** \äb-dül-ˈlā\ or **Abdullahi** \äb-dül-ä-ˈhē\ (1846–1899) Political and religious leader who succeeded Muhammad Ahmad (al-Mahdi) as head of the Mahdist movement in Sudan in 1885. He launched attacks

against the Ethiopians and invaded Egypt, securing his position by 1891. In 1896 Anglo-Egyptian forces began their reconquest of the Sudan. Abd Allah resisted until 1898, when he was forced to flee •Omdurman. He died in fighting one year later.

**Abd al-Malik ibn Marwan** \ʔab-dəl-ʔmal-ik-ʔib-ən-mär-ʔwan\ (646/67–705) Fifth caliph (685–705) of the •Umayyad dynasty. Raised in Medina, he was forced out with his father in 683 by rebels against Damascus-based Umayyad rule. Two years later he succeeded to the caliphate and began a seven-year campaign to defeat all rebellions against the Umayyads and reunify the Muslim world. He resumed the conquest of N. Africa, winning the Berbers to his side and capturing Carthage (697). His good relations with the Medina clergy led many to abandon their opposition to the Umayyads. He made Arabic the language of government throughout his domains, struck new, Islamic gold coins to replace Byzantine ones, and built the •Dome of the Rock in Jerusalem.

**Abd al-Mumin ibn Ali** \ʔab-dəl-ʔmü-min-ʔib-ən-ä-ʔlè\ (d.1163) •Berber caliph (1130–63) of the •Almohad dynasty. Around 1117 he fell under the sway of Ibn Tumart, founder of the Almohad religious movement, and joined him in opposition to the ruling •Almoravid dynasty. He succeeded Ibn Tumart 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 the city's inhabitants, then made Marrakech his home base and conquered all of N. Africa west of Egypt.

**Abd al-Rahman III** \ʔab-dəl-räk-ʔmän\ (891–961) First •caliph and greatest ruler of the Umayyad Arab Muslim dynasty of Spain. He succeeded his grandfather Abdullah 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 fall of Toledo in 933. Addressing the Christian threat to the north, he led the campaigns of Muez (920) and Navarre (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 Constantinople.

**Abdelqadir al-Jazairi** \ʔab-dəl-ʔkäd-ər-al-jaz-ʔa-i-rè\ (1808–1883) Founder of Algeria and leader of its struggle against the French. His father, Mahieddin, had led a harassment campaign against the French, who invaded Algeria in 1830. Abdelqadir 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 him by 1846. Revered for his exemplary life and ideals, he died respected by both French and Algerians, and he remains the Algerian national hero.

**Abdera** \ʔab-ʔdir-ə\ City of ancient •Thrace on the Aegean Sea nearly opposite •Thasos. First settled in the 7th cent. BC, it was colonized a second time c.540 BC. A prosperous member of the •Delian League, it was crippled in the 4th cent. 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** \ʔab-dü\, **Muhammad** (1849–1905) Egyptian religious scholar, jurist, and liberal reformer. As a student in Cairo he came under the influence of •Jamal al-Din al-Afghani. 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 Quran.

**Abdülhamid II** \ʔab-dəl-ha-ʔmèd\ (1842–1918) Ottoman sultan (1876–1909) 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 M. K. •Atatürk, •Enver Pasa, •Midhat Pasa.

**Abdul-Jabbar** \ʔab-dəl-jä-ʔbär\, **Kareem** *orig.* (Ferdinand) **Lew(is) Alcindor** (b.1947) U.S. basketball player. Born in New York City, he reached a height of 7 ft 1<sup>3</sup>/<sub>8</sub> in. (2 m 17 cm). 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. The dominant center of his time, in 1984 he surpassed W. •Chamberlain's career scoring total of 31,419 points, and by the time he retired in 1989 he had scored a record 38,387 points. He also holds the record for most field goals (15,837), ranks second for most blocked shots (3,189) and games played (1,560), and ranks third for rebounds (17,440). He was voted Most Valuable Player a record six times.

**Abdullahi** See •Abd Allah

**Abdul Rahman Putra Alhaj** \ʔab-dül-rä-ʔmän-ʔüt-rə-al-ʔhaj\, **Tunku (Prince)** (1903–1990) 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.

**Abel** See •Cain and Abel

**Abelard, Peter** (1079–1142) 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 and married secretly. Her wrathful 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 and wrote 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 other works include *Sic et non*, a collection of contradictory writings by church fathers.

**Abenaki** \ʔa-bə-ʔnä-kè\ or **Abnaki** Confederacy of •Algonquian-speaking Indian peoples in NE N. America organized to resist the •Iroquois confederacy, especially the •Mohawk. It consisted principally of the Malecite, Passamaquoddy, and Penobscot peoples. In the 17th cent. the Abenaki sided with the French against the English, but after severe defeats they withdrew to Canada, eventually settling at Saint-François-du-Lac in Quebec. Their current population is about 1,000.

**Abeokuta** \ä-ʔbä-ö-ʔkü-tä\ City (pop., 1996 est.: 424,000), SW 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 Egbas, 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 center.

**Aberdeen** City (pop., 1995 est.: 219,000) and commercial port on the North Sea, E Scotland. Situated at the mouths of the Dee and Don rivers, it is the chief port of N Scotland. It was a royal burgh from the 12th cent. and a Scottish royal residence in the 12th–14th cent. It supported •Robert the Bruce in wars for Scottish independence, and for a time was the headquarters of •Edward I. From the 1970s Aberdeen developed rapidly as the principal British center of the North Sea oil industry and its associated service and supply industries. It is the headquarters for the administrative region of •Grampian.

**Aberdeen, Earl of** *orig.* George Gordon or George Hamilton-Gordon (1784–1860) 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** \ä-bär-'härt\, **William** (1878–1943) Canadian politician, first Social Credit Party premier (Alberta, 1935–43). Born in Kippen, Ontario, he was a high-school principal in Calgary (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 Alberta's economic problems of 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** \äb-ər-'nath-ə\, **Ralph David** (1926–1990) U.S. pastor and civil-rights leader. Born in Linden, Ala., he was ordained a Baptist minister in 1948 and led a church in Montgomery, Ala., where he met M. L. King. In 1955–56 the two men organized a nonviolent boycott of the city bus system, which marked the beginning of the 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.

**aberration** 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 colors (wavelengths) of light in the same plane; the image appears blurred and shows rainbow-colored 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 the earth's direction of motion, and thus provides confirmation that the earth orbits the sun rather than the reverse.

**Aberystwyth** \ä-b-'ris-'twith\ Municipal borough (pop., 1985 est.: 12,600), W Wales, on Cardigan Bay. The medieval walled town was built around a 13th-cent. fortress. It later became the exporter for the once-flourishing local lead mines. A principal stronghold of Welsh culture, in recent years it has grown as a seaside resort.

**Abhayagiri** äb-'yā-gə-rē\ 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 cent. Two of its main colleges operated into the 16th cent.

**Abhidhamma Pitaka** \ä-bi-'dä-mə-'pē-tə-kə\ 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** \ä-bi-'där-mə-'kə-sə\ 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 cent.), who lived in NW 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.

**abhijña** \ä-'bij-nə\ 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** \ä-bē-'jän\ Largest city (pop., 1996 est.: 2,500,000) and chief port of Ivory Coast. 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 center of French W. 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., 1996 est.: 6,500), Kansas. It lies on the Smoky Hill River east of Salina. Settled in 1858, it gained importance when it became the railway terminus for Texas cattle

drives, and acquired a reputation for lawlessness; Wild Bill Hickok was its marshal in 1871. Pres. D. Eisenhower spent his boyhood there and is buried at the Eisenhower Center, which includes his family home and library.

**Abilene City** (pop., 1994 est.: 110,000), NW Texas. Founded in 1881 as the new railroad for the overland Texas cattle drives, it took the business of the previous railroad, Abilene, Kan. It is the site of several educational institutions, the W. Texas Fair, and the reconstructed Old Abilene Town.

**Abnaki** See Abenaki

**abnormal psychology or psychopathology** Branch of psychology 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 Amer. Psychiatric Assn.'s *Diagnostic and Statistical Manual of Mental Disorders*, 4th ed. (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 (incl. 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** (c.1783–1888) Movement to end the slave trade and emancipate slaves in W Europe and the Americas. Antislavery sentiment gradually gained support in England in the 18th cent., but initially had little impact on the centers of slavery—the W. Indies, S. America, and the S U.S. In 1807 British and U.S. abolitionists successfully banned the importation of African slaves, and turned their attention to winning the emancipation of slaves already in captivity. The 11 Southern states of the U.S., however, clung to slavery as a social and economic institution. The Amer. Anti-Slavery Society fueled the abolitionist movement in the North. Major Amer. abolitionist figures included W. L. Garrison, F. Douglass, and H. B. Stowe. The election of A. Lincoln, who opposed the spread of slavery into the West, marked the issue's turning point; the resulting secession of the Southern states led to the Amer. Civil War, which in turn led to the Emancipation Proclamation (1863) and the 13th Amendment to the U.S. Constitution (1865), freeing all slaves in the nation. Slavery was finally abolished in Latin America by 1888.

**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** See Australian Aborigine

**abortion** Expulsion of a fetus from the uterus before it can survive on its own. Spontaneous abortions are called miscarriages. Induced abortions occur today through intentional medical intervention and are performed to preserve the mother'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 mother does not believe she is in a position to rear a child properly. During the first 12 weeks of pregnancy, abortions are performed by sucking or scraping out the contents of the uterus. 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. Hysterotomy, the surgical removal of the contents of the uterus, may be used in the second trimester or later. 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 cent., but in the 20th cent. those sanctions were gradually modified in many countries. In the U.S., the 1973 *Roe vs. Wade* decision had the effect of legalizing abortion on demand through the first three months of pregnancy; the decades since have seen fierce debate between supporters and opponents of a liberalized abortion policy.

**Abraham** (fl. 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.