

McGraw-Hill
**Dictionary of
Scientific and
Technical
Terms**

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A

a See ampere; atto-.

aΩ See abohm.

(aΩ)⁻¹ See abmho.

A See ampere; angstrom.

A+ See A positive.

A1 time [ASTRON] A particular atomic time scale, established by the U.S. Naval Observatory, with the origin on Jan. 1, 1958, at zero hours Universal Time and with the unit (second) equal to 9,192,631,770 cycles of cesium at zero field.

aA See abampere.

AA See antiaircraft.

AAA See antiaircraft artillery.

aaa disease [MED] An endemic hookworm disease accompanied by anemia that occurred in ancient Egypt and is designated in the Ebers Papyrus.

aa channel [GEOL] A narrow, sinuous channel in which a lava river moves down and away from a central vent to feed an aa flow.

aAcm² See abampere centimeter squared.

aA/cm² See abampere per square centimeter.

aa lava [GEOL] Type of lava with a rough, fragmental surface; consists of clinkers and scoria.

Aalenian [GEOL] Lowermost Middle or uppermost Lower Jurassic geologic time.

AAM See air-to-air missile; antiaircraft missile.

A AND NOT B gate See AND NOT gate.

aapamoor [ECOL] A moor with elevated areas or mounds supporting dwarf shrubs and sphagnum, interspersed with low areas containing sedges and sphagnum, thus forming a mosaic.

aardvark [VERT ZOO] A nocturnal, burrowing, insectivorous mammal of the genus *Orycteropus* in the order Tubulidentata. Also known as earth pig.

aardwolf [VERT ZOO] *Proteles cristatus*. A hyenalike African mammal of the family Hyaenidae.

Aaron's rod [ARCH] A decorative rounded molding on which are entwined a single serpent and sometimes vines and leaves.

a axis [CRYSTAL] One of the crystallographic axes used as reference in crystal description, usually oriented horizontally, front to back. [GEOL] The direction of movement or transport in a tectonite.

ab- [ELECTROMAG] A prefix used to identify centimeter-gram-second electromagnetic units, as in abampere, abcoulomb, abfarad, abhenry, abmho, abohm, and abvolt.

abac See nomograph.

abaca [BOT] *Musa textilis*. A plant of the banana family native to Borneo and the Philippines, valuable for its hard fiber. Also known as Manila hemp.

abacterial [MICROBIO] Without bacteria.

abactinal [INV ZOO] In radially symmetrical animals, pertaining to the surface opposite the side where the mouth is located.

abacus [ARCH] A slab forming the topmost division of the capital of a column. [MATH] An instrument for performing arithmetical calculations manually by sliding markers on rods or in grooves.

abaft [NAV ARCH] In a direction farther aft in a ship than a specified reference position, such as abaft the mast.

abalienation [PSYCH] Mental deterioration or derangement.

abalone [INV ZOO] A gastropod mollusk composing the single genus, *Haliotis*, of the family Haliotidae. Also known as ear shell; ormer; paua.

abampere [ELEC] The unit of electric current in the electromagnetic centimeter-gram-second system; 1 abampere equals 10 amperes in the absolute meter-kilogram-second-ampere system. Abbreviated aA. Also known as Bi; biat.

abampere centimeter squared [ELECTROMAG] The unit of

magnetic moment in the electromagnetic centimeter-gram-second system. Abbreviated aAcm².

abampere per square centimeter [ELEC] The unit of current density in the electromagnetic centimeter-gram-second system. Abbreviated aA/cm².

abamurus [ARCH] A masonry block, in the form of a buttress, used to support a structure.

abandon [ENG] To stop drilling and remove the drill rig from the site of a borehole before the intended depth or target is reached.

abandoned channel See oxbow.

abandoned mine See abandoned workings.

abandoned well [MIN ENG] An oil or gas well whose yield has fallen below that necessary for profit.

abandoned workings [MIN ENG] Deserted excavations, either caved or sealed, in which further mining is not intended, and opening workings which are not ventilated and inspected regularly. Also known as abandoned mine.

abandonment [MIN ENG] Failure to perform work, by conveyance, by absence, and by lapse of time, on a mining claim. [PETRO ENG] See abandonment contour.

abandonment contour [PETRO ENG] A graph of actual cumulative yield of an oil well compared with its estimated ultimate yield; useful in determining the most economic time to abandon an oil well. Also known as abandonment.

abapertural [INV ZOO] Away from the shell aperture, referring to mollusks.

abapical [BIOL] On the opposite side to, or directed away from, the apex.

abarognosis [MED] Lack of ability to estimate the weight of an object one is holding.

abasia [MED] Lack of muscular coordination in walking.

abatement [ENG] 1. The waste produced in cutting a timber, stone, or metal piece to a desired size and shape. 2. A decrease in the amount of a substance or other quantity, such as atmospheric pollution.

abat-jour [BUILD] A device that is used to deflect daylight downward as it streams through a window.

A battery [ELECTR] The battery that supplies power for filaments or heaters of electron tubes in battery-operated equipment.

abattoir [IND ENG] A building in which cattle or other animals are slaughtered.

abat-vent [BUILD] A series of sloping boards or metal strips, or some similar contrivance, to break the force of wind without being an obstruction to the passage of air or sound, as in a louver or chimney cowl.

abaxial [BIOL] On the opposite side to, or facing away from, the axis of an organ or organism.

abb [TEXT] Yarn made of abb wool. [VERT ZOO] A coarse wool from the fleece areas of lesser quality.

abbazzo [GRAPHICS] A rough sketch, draft, or model.

Abbe condenser [OPTICS] A variable large-aperture lens system arranged substage to image a light source into the focal plane of a microscope objective.

Abbe number [OPTICS] A number which expresses the deviating effect of an optical glass on light of different wavelengths.

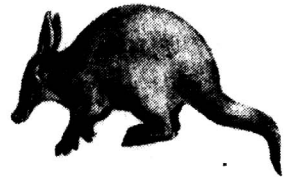
Abbe prism [OPTICS] A system used for image erection which is composed of two double right-angle prisms and involves four reflections.

Abbe refractometer [OPTICS] An optical instrument for the measurement of the refractive index of liquids.

Abbe's sine condition [OPTICS] A relationship which must hold to prevent aberration of a mirror or lens from producing a coma.

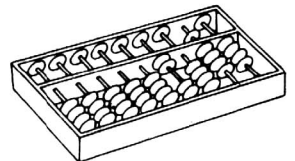
Abbe's theory [OPTICS] The theory that for a lens to produce

AARDVARK



The armadillo (*Orycteropus afer*), a nocturnal, burrowing animal ranging from Ethiopia to southern Africa.

ABACUS



Drawing of an abacus.

ABALONE



Typical abalone ear-shaped shell perforated by pores.

a true image, it must be large enough to transmit the entire diffraction pattern of the object.

abbreviated dialing [COMMUN] A method comprising special circuits which require less than the usual number of dialing operations to connect two or more subscribers.

ABC See automatic brightness control.

abcoulomb [ELEC] The unit of electric charge in the electromagnetic centimeter-gram-second system, equal to 10 coulombs. Abbreviated aC.

abcoulomb centimeter [ELEC] The electromagnetic centimeter-gram-second unit of electric dipole moment. Abbreviated aCcm.

abcoulomb per cubic centimeter [ELEC] The electromagnetic centimeter-gram-second unit of volume density of charge. Abbreviated aC/cm³.

abcoulomb per square centimeter [ELEC] The electromagnetic centimeter-gram-second unit of surface density of charge, electric polarization, and displacement. Abbreviated aC/cm².

ABC system [GEOPHYS] A procedure in seismic surveying to determine the effect of irregular weathering thickness. [MAP] See airborne control system. [ORB] An atomic, biological, or chemical weapons system.

Abderhalden reaction [PATH] A chemical blood test for the identification of certain enzymes associated with pregnancy and a few diseases.

abdomen [ANAT] 1. The portion of the vertebrate body between the thorax and the pelvis. 2. The cavity of this part of the body. [INV ZOO] The elongate region posterior to the thorax in arthropods.

abdominal apoplexy [MED] Vascular occlusion and hemorrhage in an abdominal organ, usually the small intestine, or in the peritoneal cavity.

abdominal depth [ANTHRO] Maximum horizontal contact dimension, measured front to back.

abdominal gestation [MED] Development of a fetus outside the uterus in the abdominal cavity.

abdominal hernia See ventral hernia.

abdominal hysterectomy [MED] Surgical removal of all or part of the uterus through an incision in the abdomen.

abdominal regions [ANAT] Nine theoretical areas delineated on the abdomen by two horizontal and two parasagittal lines: above, the right hypochondriac, epigastric, and left hypochondriac; in the middle, the right lateral, umbilical, and left lateral; and below, the right inguinal, hypogastric, and left inguinal.

abducens [ANAT] The sixth cranial nerve in vertebrates; a paired, somatic motor nerve arising from the floor of the fourth ventricle of the brain and supplying the lateral rectus eye muscles.

abduction [PHYSIO] Movement of an extremity or other body part away from the axis of the body.

abductor [PHYSIO] Any muscle that draws a part of the body or an extremity away from the body axis.

abeam See on the beam.

Abegg's rule [CHEM] An empirical rule, holding for a large number of elements, that the sum of the maximum positive and negative valencies of an element equals eight.

Abelian domain See Abelian field.

Abelian field [MATH] A set of elements a, b, c, \dots forming Abelian groups with addition and multiplication as group operations where $a(b + c) = ab + ac$. Also known as Abelian domain; domain.

Abelian group [MATH] A group whose binary operation is commutative; that is, $ab = ba$ for each a and b in the group.

abelleite [MATER] A substance made of ammonium nitrate and a nitrated aromatic hydrocarbon and used as an explosive.

Abel's inequality [MATH] The condition where the sum of n terms, each in the form ab , is not greater than the product of the first b and the absolute value of the largest partial sum of the a s, provided the b s are a nonincreasing sequence of positive numbers.

Abel's integral equation [MATH] The equation

$$f(x) = \int_a^x u(z)(x-z)^{-\alpha} dz \quad (0 < \alpha < 1, x \geq a),$$

where $f(x)$ is a known function and $u(z)$ is the function to be

determined; when $\alpha = 1/2$, this equation has application to Abel's problem.

Abel's problem [MATH] The problem which asks what path a particle will follow if it moves under the influence of gravity alone and its altitude-time function is to follow a specific law.

Abel tester [PHYS CHEM] A laboratory instrument used in testing the flash point of kerosine and other volatile oils having flash points below 120°F (48.9°C); the oil is contained in a closed cup which is heated by a fixed flame below and a movable flame above.

Abel theorem [MATH] 1. A theorem stating that if a power series in z converges for $z = a$, it converges absolutely for $|z| < |a|$. 2. A theorem stating that if a power series in z converges to $f(z)$ for $|z| < 1$ and to a for $z = 1$, then the limit of $f(z)$ as z approaches 1 is a . 3. A theorem stating that if the three series with n th term a_n, b_n , and $c_n = a_0b_n + a_1b_{n-1} + \dots + a_nb_0$, respectively, converge, then the third series equals the product of the first two series.

abenteric [MED] Involving abdominal organs and structures outside the intestine.

aberrant [BIOL] An atypical group, individual, or structure, especially one with an aberrant chromosome number.

aberration [ASTRON] The apparent angular displacement of the position of a celestial body in the direction of motion of the observer, caused by the combination of the velocity of the observer and the velocity of light. [OPTICS] Any deviation from perfect reproduction so that a point is not imaged as a point, a straight line as straight, or an angle as an equal angle.

abfarad [ELEC] A unit of capacitance in the electromagnetic centimeter-gram-second system equal to 10^9 farads. Abbreviated aF.

abhenry [ELEC] A unit of inductance in the electromagnetic centimeter-gram-second system of units equal to 10^{-9} henry. Abbreviated aH.

Abies [BOT] The firs, a genus of trees in the pine family characterized by erect cones, absence of resin canals in the wood, and flattened needlelike leaves.

abietic acid [ORG CHEM] $C_{20}H_{30}O_2$ A tricyclic, crystalline acid obtained from rosin; used in making esters for plasticizers.

abiocoen [ECOL] A nonbiotic habitat.

abiogenesis [BIOL] The obsolete concept that plant and animal life arise from nonliving organic matter. Also known as autogenesis; spontaneous generation.

abiotic [BIOL] Referring to the absence of living organisms.

abiotic environment [ECOL] All physical and nonliving chemical factors, such as soil, water, and atmosphere, which influence living organisms.

abiotic substance [ECOL] Any fundamental chemical element or compound in the environment.

abiotrophy [MED] Disordered functioning of an organ or system, as in Huntington's chorea, due to an inherited pathologic trait, which trait, however, may remain latent in the individual rather than becoming apparent; this mechanism is still conceptual.

abjection [MYCOL] The discharge or casting off of spores by the spore-bearing structure of a fungus.

ablastin [IMMUNOL] An antibodylike substance elicited by *Trypanosoma lewisi* in the blood serum of infected rats that inhibits reproduction of the parasite.

ablation [AERO ENG] The carrying away of heat, generated by aerodynamic heating, from a vital part by arranging for its absorption in a nonvital part, which may melt or vaporize and then pass away, taking the heat with it. Also known as ablative cooling. [GEOL] The wearing away of rocks, as by erosion or weathering. [HYD] The reduction in volume of a glacier due to melting and evaporation. [MED] The removal of tissue or a part of the body by surgery, such as by excision or amputation.

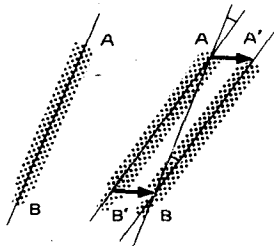
ablation area [HYD] The section in a glacier or snowfield where ablation exceeds accumulation.

ablation cone [HYD] A debris-covered cone of ice, firn, or snow formed by differential ablation.

ablation factor [HYD] The rate at which a snow or ice surface wastes away.

ablation form [HYD] A feature on a snow or ice surface caused by melting or evaporation.

ABERRATION



The aberration of light as seen in astronomy. Starlight arriving along AB and seen in this direction by a stationary observer (left) appears to the observer in transverse motion AA' (right) to come from the direction AB' (or A'B). (From G. de Vaucouleurs, *Discovery of the Universe*, Faber, 1957)

ablation moraine [GEOL.] 1. A layer of rock particles overlying ice in the ablation of a glacier. 2. Drift deposited from a superglacial position through the melting of underlying stagnant ice.

ablative agent [MATER.] A material from which the surface layer is to be removed, often for the purpose of dissipating extreme heat energy, as in space vehicles reentering the earth's atmosphere. Also known as ablative material.

ablative cooling See ablation.

ablative material See ablative agent.

ablative shielding [AERO ENG.] A covering of material designed to reduce heat transfer to the internal structure through sublimation and loss of mass.

ablatograph [ENG.] An instrument that records ablation by measuring the distance a snow or ice surface falls during the observation period.

ABM See antiballistic missile.

abmho [ELEC.] A unit of conductance in the electromagnetic centimeter-gram-second system of units equal to 10^9 mhos. Abbreviated (a Ω)-1. Also known as absiemens (aS).

Abney effect [OPTICS.] A shift in the apparent hue of a light which occurs as colored light is desaturated by the addition of white light.

Abney level [ENG.] A hand level with a vertical circle, used to measure vertical angles, especially in ascertaining tree heights by trigonometric relationships.

abnormal anticlinorium [GEOL.] An anticlinorium with axial planes of subsidiary folds diverging upward.

abnormal behavior [PSYCH.] Personality functioning that is socially undesirable or that renders the individual unable to cope with day-to-day living. Also known as behavior disorder.

abnormality [SCI TECH.] Any deviation from normal characteristics.

abnormal magnetic variation [GEOPHYS.] The anomalous value in magnetic compass readings made in some local areas containing unknown sources that deflect the compass needle from the magnetic meridian.

abnormal place [MIN ENG.] An area in a coal mine where geological conditions render mining uneconomical.

abnormal propagation [COMMUN.] Phenomena of unstable or changing atmospheric or ionospheric conditions acting upon transmitted radio waves, preventing such waves from following their normal path through space, and causing difficulties and disruptions of communications.

abnormal psychology [PSYCH.] A branch of psychology that deals with behavior disorders and internal psychic conflict in addition to certain normal phenomena such as dreams, motivations, and anxiety.

abnormal reflections [ELECTROMAG.] Sharply defined reflections of substantial intensity at frequencies greater than the critical frequency of the ionized layer of the ionosphere.

abnormal statement [ADP.] An element of a FORTRAN V (UNIVAC) program which specifies that certain function subroutines must be called every time they are referred to.

abnormal synclinorium [GEOL.] A synclinorium with axial planes of subsidiary folds converging downward.

ABO blood group [IMMUNOL.] An immunologically distinct, genetically determined group of human erythrocyte antigens represented by two blood factors (A and B) and four blood types (A, B, AB, and O).

abohm [ELEC.] The unit of electrical resistance in the centimeter-gram-second system; 1 abohm equals 10^{-9} ohm in the meter-kilogram-second system. Abbreviated a Ω .

abohm centimeter [ELEC.] The centimeter-gram-second unit of resistivity. Abbreviated a Ω cm.

abomasitis [VET MED.] Inflammation of the abomasum in ruminants.

abomasum [VERT ZOO.] The final chamber of the complex stomach of ruminants; has a glandular wall and corresponds to a true stomach.

A bomb See atomic bomb.

aboral [INV ZOO.] Opposite to the mouth.

abort [AERO ENG.] 1. To cut short or break off an action, operation, or procedure with an aircraft, space vehicle, or the like, especially because of equipment failure. 2. An aircraft,

space vehicle, or the like which aborts. 3. An act or instance of aborting.

aborted firing [ORD.] A firing of a gun or launching of a missile which is cut off either manually or automatically after the firing command has been given but before ignition has been initiated.

abortifacient [MED.] Any agent that induces abortion.

abortion [MED.] The spontaneous or induced expulsion of a fetus during the first 12 weeks of human gestation.

abortive [BIOL.] Imperfectly formed or developed.

abortive transduction [MICROBIO.] Failure of exogenous fragments that were introduced into a bacterial cell by viruses to become inserted into the bacterial chromosome.

abortus [MED.] An aborted fetus.

abort zone [AERO ENG.] The area surrounding the launch within which malfunctioning missiles will be contained with known and acceptable probability.

about-sledge [MET.] A large hammer used in blacksmithing.

a-b plane [GEOL.] The surface along which differential movement takes place.

AB power pack [ELEC.] 1. Assembly in a single unit of the A battery and B battery for a battery-operated vacuum-tube circuit. 2. Unit that supplies the necessary A and B direct-current voltages from an alternating-current source of power.

abrachiocephalia [MED.] Congenital lack of arms and head. Also known as acephalobrachia.

abrade [GEOL.] To wear away by abrasion or friction.

Abraham's tree [METEOROL.] The popular name given to a form of cirrus radiatus clouds, consisting of an assemblage of long feathers and plumes of cirrus that seems to radiate from a single point on the horizon.

abbranchiate [ZOO.] Without gills.

abrasion [ENG.] The removal of surface material from any solid through the frictional action of another solid, a liquid, or a gas or combination thereof. [GEOL.] Wearing away of sedimentary rock chiefly by currents of water laden with sand and other rock debris and by glaciers. [MED.] A spot denuded of skin, mucous membrane, or superficial epithelium by rubbing or scraping.

abrasion platform [GEOL.] An uplifted marine peneplain or plain, according to the smoothness of the surface produced by wave erosion, which is of large area.

abrasion resistance [MATER.] The ability of a surface to resist wearing due to contact with another surface moving with respect to it.

abrasion test [MECH ENG.] The measurement of abrasion resistance, usually by the weighing of a material sample before and after subjecting it to a known abrasive stress throughout a known time period, or by reflectance or surface finish comparisons, or by dimensional comparisons.

abrasive [GEOL.] A small, hard, sharp-cornered rock fragment, used by natural agents in abrading rock material or land surfaces. Also known as abrasive ground. [MATER.] 1. A material used, usually as a grit sieved by a specified mesh but also as a solid shape or as a paste or slurry or air suspension, for grinding, honing, lapping, superfinishing, polishing, pressure blasting, or barrel tumbling. 2. A material sintered or formed into a solid mass such as a hone or a wheel disk, cone, or burr for grinding or polishing other materials. 3. Having qualities conducive to or derived from abrasion.

abrasive belt [MECH ENG.] A cloth, leather, or paper band impregnated with grit and rotated as an endless loop to abrade materials through continuous friction.

abrasive blasting [MECH ENG.] The cleaning or finishing of surfaces by the use of an abrasive entrained in a blast of air.

abrasive cloth [MECH ENG.] Tough cloth to whose surface an abrasive such as sand or emery has been bonded for use in grinding or polishing.

abrasive cone [MECH ENG.] An abrasive sintered or shaped into a solid cone to be rotated by an arbor for abrasive machining.

abrasive disk [MECH ENG.] An abrasive sintered or shaped into a disk to be rotated by an arbor for abrasive machining.

abrasive drilling [MIN ENG.] A rotary drilling method in which drilling is effected by the abrasive action of the drill steel or drilling medium which rotates while being pressed against the rock.

abrasive ground See abrasive.

abrasive jet cleaning [ENG] The removal of dirt from a solid by a gas or liquid jet carrying abrasives to ablate the surface.

abrasive machining [MECH ENG] Grinding, drilling, shaping, or polishing by abrasion.

abrasiveness [MATER] 1. The property of a material causing wear of a surface by friction. 2. The quality or characteristic of being able to scratch, abrade, or wear away another material.

abrasive paper [MATER] Tough paper to whose surface an abrasive, such as sand or emery, has been bonded for use in grinding or polishing.

abrasive sand [MATER] Grit used as abrasive, usually graded as to which sieve mesh it will pass through.

abreast milling [MECH ENG] A milling method in which parts are placed in a row parallel to the axis of the cutting tool and are milled simultaneously.

abrevoir [CIV ENG] A space between stones in masonry to be filled with mortar.

Abridged Nautical Almanac See Nautical Almanac.

abrupt [BOT] Ending suddenly, as though broken off.

abs [ADP] A special function in ALGOL, which yields the absolute value, or modulus, of its argument. [METEOROL] See absolute.

ABS See acrylonitrile butadiene styrene.

absarokite [PETR] An alkalic basalt of about equal portions of olivine, augite, labradorite, and sanidine with accessory biotite, apatite, and opaque oxides; leucite is occasionally present in small amounts.

abscess [MED] A localized collection of pus surrounded by inflamed tissue.

abscisic acid [BIOCHEM] $C_{10}H_{18}O_4$ A plant hormone produced by fruits and leaves that promotes abscission and dormancy and retards vegetative growth. Formerly known as abscisin.

abscisin See abscisic acid.

abscissa [MATH] One of the coordinates of a two-dimensional coordinate system, usually the horizontal coordinate, denoted by x .

abscission [BOT] A physiological process promoted by abscisic acid whereby plants shed a part, such as a leaf, flower, seed, or fruit.

absence-of-ground searching selector [COMMUN] In dial telephones, an automatic switch which rotates, or rises vertically and rotates, in search of an ungrounded contact.

abstemious See abmho.

absinthe [FOOD ENG] A green liqueur having a bitter licorice flavor and a high alcohol content.

absolute [METEOROL] Referring to the highest or lowest recorded value of a meteorological element, whether at a single station or over an area, during a given period. Abbreviated abs.

absolute address [ADP] The numerical identification of each storage location which is wired permanently into a computer by the manufacturer.

absolute age [GEOL] The geologic age of a fossil, or a geologic event or structure expressed in units of time, usually years. Also known as actual age.

absolute alcohol [ORG CHEM] Ethyl alcohol that contains no more than 1% water. Also known as anhydrous alcohol.

absolute altimeter [ENG] An instrument which employs radio, sonic, or capacitive technology to produce on its indicator the measurement of distance from the aircraft to the terrain below. Also known as terrain clearance indicator.

absolute altitude [ENG] Altitude above the actual surface, either land or water, of a planet or natural satellite.

absolute angle of attack [AERO ENG] The acute angle between the chord of an airfoil at any instant in flight and the chord of that airfoil at zero lift.

absolute blocking [CIV ENG] A control arrangement for rail traffic in which a track is divided into sections or blocks upon which a train may not enter until the preceding train has left.

absolute boiling point [CHEM] The boiling point of a substance expressed in the unit of an absolute temperature scale.

absolute ceiling [AERO ENG] The greatest altitude at which an aircraft can maintain level flight in a standard atmosphere and under specified conditions.

absolute code [ADP] A code used when the addresses in a program are to be written in machine language exactly as they will appear when the instructions are executed by the control circuits.

absolute convergence [MATH] That property of an infinite series (or infinite product) of real or complex numbers if the series (product) of absolute values converges; absolute convergence implies convergence.

absolute coordinate system [NAV] The inertial coordinate system which has its origin on the axis of the earth and is fixed with respect to the stars. Also known as absolute reference frame.

absolute delay [NAV] In loran, the time interval between transmission of a signal from the A station and transmission of the next signal from the B station.

absolute density See absolute gravity.

absolute deviation [ORD] The shortest distance between the center of the target and the point where a projectile hits or bursts. [STAT] The difference, without regard to sign, between a variate value and a given value.

absolute drought [METEOROL] In Britain, a period of at least 15 consecutive days during which no measurable daily precipitation has fallen.

absolute efficiency [ENG ACOUS] The ratio of the power output of an electroacoustic transducer, under specified conditions, to the power output of an ideal electroacoustic transducer.

absolute electrometer [ELEC] A very precise type of attracted disk electrometer in which the attraction between two disks is balanced against the force of gravity.

absolute error [MATH] In an approximate number, the numerical difference between the number and a number considered exact. [ORD] 1. Shortest distance between the center of impact or the center of burst of a group of shots and the point of impact or burst of a single shot within the group. 2. Error of a sight consisting of its error in relation to a master service sight with which it is tested and of the known error of the master service sight.

absolute gain of an antenna [ELECTROMAG] Gain in a given direction when the reference antenna is an isotropic antenna isolated in space. Also known as isotropic gain of an antenna.

absolute geopotential topography See geopotential topography.

absolute gravity [CHEM] Density or specific gravity of a fluid reduced to standard conditions; for example, with gases, to 760 mm Hg pressure and 0°C temperature. Also known as absolute density.

absolute humidity [METEOROL] The ratio of the mass of water vapor in a sample of air to the volume of the sample.

absolute instability [METEOROL] The state of a column of air in the atmosphere when it has a superadiabatic lapse rate of temperature, that is, greater than the dry-adiabatic lapse rate. Also known as autoconvective instability; mechanical instability.

absolute instrument [ENG] An instrument which measures a quantity (such as pressure or temperature) in absolute units by means of simple physical measurements on the instrument.

absolute isohypse [METEOROL] A line that has the properties of both constant pressure and constant height above mean sea level.

absolute linear momentum See absolute momentum.

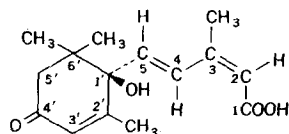
absolute luminosity [OPTICS] The luminosity of an object expressed in units of fundamental quantities.

absolute magnetometer [ENG] An instrument used to measure the intensity of a magnetic field without reference to other magnetic instruments.

absolute magnitude [ASTROPHYS] 1. A measure of the brightness of a star equal to the magnitude the star would have at a distance of 10 parsecs from the observer. 2. The stellar magnitude any meteor would have if placed in the observer's zenith at a height of 100 kilometers. [MATH] The absolute value of a number or quantity.

absolute manometer [ENG] 1. A gas manometer whose calibration, which is the same for all ideal gases, can be calculated from the measurable physical constants of the instrument. 2. A manometer that measures absolute pressure.

ABSCISIC ACID



Structural formula for S-abscisic acid, the naturally occurring form.

absolute momentum [METEOROL] The sum of the (vector) momentum of a particle relative to the earth and the (vector) momentum of the particle due to the earth's rotation. Also known as absolute linear momentum.

absolute motion [NAV] Motion relative to a point fixed on the earth or to an apparently fixed celestial point. [PHYS] The motion of an object described by its measurement in a frame of reference that is preferred over all other frames.

absolute orientation [NAV] The adjusting to proper scale, orientating of the model datum parallel to sea level or another given vertical datum, and positioning of the model with reference to the horizontal datum of a stereoscopic model or group of models.

absolute parallax See absolute stereoscopic parallax.

absolute permeability [ELECTROMAG] The ratio of the magnetic flux density to the intensity of the magnetic field in a medium; measurement is in webers per square meter in the meter-kilogram-second system. Also known as induced capacity.

absolute pitch [ACOUS] The pitch of a musical tone expressed as the frequency of the sound wave of that tone.

absolute potential vorticity See potential vorticity.

absolute pressure [PHYS] The pressure above the absolute zero value of pressure that theoretically obtains in empty space or at the absolute zero of temperature, as distinguished from gage pressure.

absolute pressure gage [ENG] A device that measures the pressure exerted by a fluid relative to a perfect vacuum; used to measure pressures very close to a perfect vacuum.

absolute pressure transducer [ENG] A device that responds to absolute pressure as the input and provides a measurable output of a nature different than but proportional to absolute pressure.

absolute programming [ADP] Programming with the use of absolute code.

absolute reaction rate [PHYS CHEM] The rate of a chemical reaction as calculated by means of the (statistical-mechanics) theory of absolute reaction rates.

absolute reference frame See absolute coordinate system.

absolute roof [MIN ENG] The entire mass of strata overlying a subsurface point of reference.

absolute scale See absolute temperature scale.

absolute space-time [PHYS] A concept underlying Newtonian mechanics which postulates the existence of a preferred reference system of time and spatial coordinates; replaced in relativistic mechanics by Einstein's equivalency principle. Also known as absolute time.

absolute specific gravity [MECH] The ratio of the weight of a given volume of a substance in a vacuum at a given temperature to the weight of an equal volume of water in a vacuum at a given temperature.

absolute stability [METEOROL] The state of a column of air in the atmosphere when its lapse rate of temperature is less than the saturation-adiabatic lapse rate.

absolute standard [PHYS] A particle or object designated as a standard by assigning to it a mass of one unit; used in defining quantities in Newton's second law of motion.

absolute stereoscopic parallax [GRAPHICS] Considering a pair of aerial photographs of equal principal distance, the absolute stereoscopic parallax of a point is the algebraic difference of the distances of the two images from their respective photograph nadirs, measured in a horizontal plane and parallel to the air base. Also known as absolute parallax; horizontal parallax; linear parallax; parallax; stereoscopic parallax; x-parallax.

absolute stop [CIV ENG] A railway signal which indicates that the train must make a full stop and not proceed until there is a change in the signal. Also known as stop and stay.

absolute system of units [PHYS] A set of units for measuring physical quantities, defined by interrelated equations in terms of arbitrary fundamental quantities of length, mass, time, and charge or current.

absolute temperature [THERMO] 1. The temperature measurable in theory on the thermodynamic temperature scale. 2. The temperature in Celsius degrees relative to the absolute zero at -273.16°C (the Kelvin scale) or in Fahrenheit

degrees relative to the absolute zero at -459.69°F (the Rankine scale).

absolute temperature scale [THERMO] A scale with which temperatures are measured relative to absolute zero. Also known as absolute scale.

absolute threshold [PHYSIO] The minimum stimulus energy that an organism can detect.

absolute time [GEOL] Geologic time measured in years, as determined by radioactive decay of elements. [PHYS] See absolute space-time.

absolute unit [PHYS] A unit defined in terms of units of fundamental quantities such as length, time, mass, and charge or current.

absolute vacuum [PHYS] A void completely empty of matter. Also known as perfect vacuum.

absolute-value computer [ADP] A computer that processes the values of the variables rather than their increments.

absolute value of a complex number [MATH] The modulus of a complex number; the square root of the sum of the squares of its real and imaginary part. Also known as magnitude of a complex number.

absolute value of a real number [MATH] The number if it is nonnegative, and the negative of the number if it is negative. Also known as magnitude of a real number; numerical value of a real number.

absolute value of a vector [MATH] The length of a vector, disregarding its direction; the square root of the sum of the squares of its orthogonal components. Also known as magnitude of a vector.

absolute velocity [PHYS] The vector sum of the velocity of a fluid parcel relative to the earth and the velocity of the parcel due to the earth's rotation; the east-west component is the only one affected.

absolute viscosity [FL MECH] The tangential force per unit area of two parallel planes at unit distance apart when the space between them is filled with a fluid and one plane moves with unit velocity in its own plane relative to the other.

absolute vorticity [FL MECH] The vorticity of a fluid relative to an absolute coordinate system; especially, the vorticity of the atmosphere relative to axes not rotating with the earth.

absolute wavemeter [ELECTROMAG] A type of wavemeter in which the frequency of an injected radio-frequency voltage is determined by measuring the length of a resonant line.

absolute zero [THERMO] The temperature of -273.16°C , or -459.69°F , or 0 K , thought to be the temperature at which molecular motion vanishes and a body would have no heat energy.

absorb [CHEM] To take up matter in bulk. [ELECTROMAG] To take up energy from radiation. [PHYS] To take up matter or radiation.

absorbance [PHYS CHEM] The common logarithm of the reciprocal of the transmittance of a pure solvent. Also known as absorptancy; extinction.

absorbancy See absorbance.

absorbed dose [NUCLEO] The amount of energy imparted by ionizing particles to a unit mass of irradiated material at a place of interest. Also known as dosage; dose.

absorbency [CHEM] Penetration of one substance into another.

absorbency index See absorptivity.

absorbent cotton [MATER] A cotton fiber that absorbs water because its natural waxes have been removed.

absorbent paper [MATER] Paper capable of absorbing and holding liquids by the capillarity of the pores between or within the closely matted cellulosic fibers.

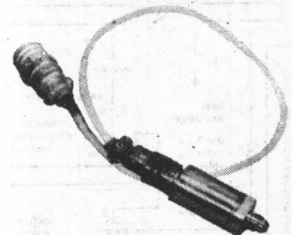
absorber [CHEM ENG] Equipment in which a gas is absorbed by contact with a liquid. [ELECTR] A material or device that takes up and dissipates radiated energy; may be used to shield an object from the energy, prevent reflection of the energy, determine the nature of the radiation, or selectively transmit one or more components of the radiation. [NUCLEO] A material that absorbs neutrons or other ionizing radiation.

absorber control See absorption control.

absorber oil See absorption oil.

absorbing boom [CIV ENG] A device that floats on the water and is used to stop the spread of an oil spill and aid in its removal.

ABSOLUTE PRESSURE TRANSDUCER



A miniaturized absolute pressure transducer used in flight testing.

ABSOLUTE TEMPERATURE

	Kelvin	Celsius	Rankine	Fahrenheit
steam point	373°	100°	672°	212°
		100°K or °C		180°R or °F
ice point	273°	0°	492°	32°
solid CO ₂	195°	-78°	351°	-109°
oxygen point	90°	-183°	162°	-297°
absolute zero	0°	-273°	0°	-460°

Comparisons of Kelvin, Celsius, Rankine, and Fahrenheit temperature scales. Temperatures are rounded off to nearest degree. (From M. W. Zemansky, *Temperatures Very Low and Very High*, Van Nostrand, 1964)

absorbing rod absorptivity

6

absorbing rod See control rod.

absorbing state [MATH] A special case of recurrent state in a Markov process in which the transition probability, P_{ii} , equals 1; a process will never leave an absorbing state once it enters.

absorbing well [CIV ENG] A shaft that permits water to drain through an impermeable stratum to a permeable stratum.

absorbance [PHYS] The ratio of the total unabsorbed radiation to the total incident radiation; equal to one (unity) minus the transmittance.

absorptometer [ANALY CHEM] 1. An instrument equipped with a filter system or other simple dispersing system to measure the absorption of nearly monochromatic radiation in the visible range by a gas or a liquid, and so determine the concentration of the absorbing constituents in the gas or liquid. 2. A device for regulating the thickness of a liquid in spectrophotometry.

absorptometric analysis [ANALY CHEM] Chemical analysis of a gas or a liquid by measurement of the peak, electromagnetic absorption wavelengths that are unique to a specific material or element.

absorption [CHEM] The taking up of matter in bulk by other matter, as in dissolving of a gas by a liquid. [ELEC] The property of a dielectric in a capacitor which causes a small charging current to flow after the plates have been brought up to the final potential, and a small discharging current to flow after the plates have been short-circuited, allowed to stand for a few minutes, and short-circuited again. Also known as dielectric soak. [ELECTROMAG] The taking up of energy from radiation by the medium through which the radiation is passing. [HYD] The entrance of surface water into the lithosphere. [PHYSIO] Passage of a chemical substance through a body membrane.

absorption atelectasis See obstructive atelectasis.

absorption band [PHYS] A range of wavelengths or frequencies in the electromagnetic spectrum within which radiant energy is absorbed by a substance.

absorption circuit [ELECTR] A series-resonant circuit used to absorb power at an unwanted signal frequency by providing a low impedance to ground at this frequency.

absorption coefficient Also known as absorption factor; absorption ratio; coefficient of absorption. [ACOUS] The ratio of the sound energy absorbed by a surface of a medium or material to the sound energy incident on the surface. [PHYS] If a flux through a material decreases with distance x in proportion to e^{-ax} , then a is called the absorption coefficient.

absorption column See absorption tower.

absorption constant See absorptivity.

absorption control [ELECTR] See absorption modulation. [NUCLEO] Control of a nuclear reactor by a material that absorbs neutrons, such as cadmium or boron steel. Also known as absorber control.

absorption cross section [ELECTROMAG] In radar, the ratio of the amount of power removed from a beam by absorption of radio energy by a target to the power in the beam incident upon the target.

absorption current [ELEC] The component of a dielectric current that is proportional to the rate of accumulation of electric charges within the dielectric.

absorption curve [PHYS] A graph showing the curvilinear relationship of the variation in absorbed radiation as a function of wavelength.

absorption cycle [MECH ENG] In refrigeration, the process whereby a circulating refrigerant, for example, ammonia, is evaporated by heat from an aqueous solution at elevated pressure and subsequently reabsorbed at low pressure, displacing the need for a compressor.

absorption dynamometer [ENG] A device for measuring mechanical forces or power in which the mechanical energy input is absorbed by friction or electrical resistance.

absorption edge [SPECT] The wavelength corresponding to a discontinuity in the variation of the absorption coefficient of a substance with the wavelength of the radiation. Also known as absorption limit.

absorption-emission pyrometer [ENG] A thermometer for determining gas temperature from measurement of the radiation emitted by a calibrated reference source before and after

this radiation has passed through and been partially absorbed by the gas.

absorption factor See absorption coefficient.

absorption fading [COMMUN] Slow type of fading, primarily caused by variations in the absorption rate along the radio path.

absorption gasoline [MATER] A gasoline obtained by using an oil to absorb the natural or refinery gas containing the gasoline and then distilling it from the oil.

absorption hygrometer [ENG] An instrument with which the water vapor content of the atmosphere is measured by means of the absorption of vapor by a hygroscopic chemical.

absorption index [OPTICS] The complex index of refraction may be written as $n(1 + ik)$; the coefficient k is the absorption index. Also known as index of absorption.

absorption lens [OPTICS] Glass which prevents selected wavelengths from passing through it; used in eyeglasses.

absorption limit See absorption edge.

absorption line [SPECT] A minute range of wavelength or frequency in the electromagnetic spectrum within which radiant energy is absorbed by the medium through which it is passing.

absorption loss [COMMUN] That part of the transmission loss due to the dissipation or conversion of either sound energy or electromagnetic energy into other forms of energy, either within the medium or attendant upon a reflection.

absorption meter [ENG] An instrument designed to measure the amount of light transmitted through a transparent substance, using a photocell or other light detector.

absorption modulation [ELECTR] A system of amplitude modulation in which a variable-impedance device is inserted in or coupled to the output circuit of the transmitter. Also known as absorption control; loss modulation.

absorption number [ENG] A dimensionless group used in the field of gas absorption in a wetted-wall column; represents the liquid side mass-transfer coefficient.

absorption oil [MATER] A petroleum or coal tar oil that is contacted with a vapor or gas mixture to remove heavy components, as in the recovery of natural gasoline from wet natural gas. Also known as absorber oil; scrubbing oil; wash oil.

absorption peak [SPECT] A wavelength of maximum electromagnetic absorption by a chemical sample; used to identify specific elements, radicals, or compounds.

absorption plant [CHEM ENG] A facility to recover the condensable portion of natural or refinery gas.

absorption ratio See absorption coefficient.

absorption refrigeration [MECH ENG] Refrigeration in which cooling is effected by the expansion of liquid ammonia into gas and absorption of the gas by water; the ammonia is reused after the water evaporates.

absorption spectrophotometer [SPECT] An instrument used to measure the relative intensity of absorption spectral lines and bands. Also known as difference spectrophotometer.

absorption spectroscopy [SPECT] The study of spectra obtained by the passage of radiant energy from a continuous source through a cooler, selectively absorbing medium.

absorption spectrum [SPECT] The array of absorption lines and absorption bands which results from the passage of radiant energy from a continuous source through a cooler, selectively absorbing medium.

absorption test [IMMUNOL] Analysis of the antigenic components of bacterial cells and large macromolecules by a series of precipitation or agglutination reactions with specific antibodies.

absorption tower [ENG] A vertical tube in which a rising gas is partially absorbed by a liquid in the form of falling droplets. Also known as absorption column.

absorption tube [CHEM] A tube filled with a solid absorbent and used to absorb gases and vapors.

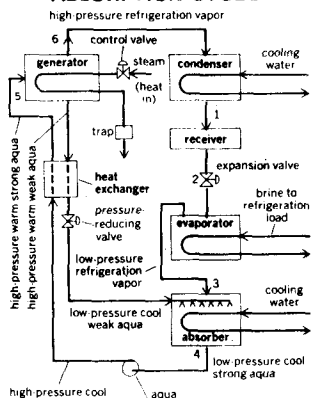
absorption unit See sabin.

absorption wavemeter [ELECTR] A frequency- or wavelength-measuring instrument consisting of a calibrated tunable circuit and a resonance indicator.

absorptive power See absorptivity.

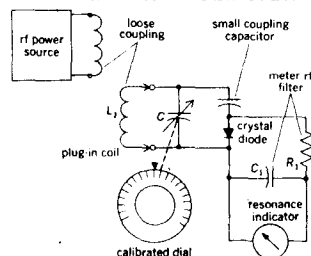
absorptivity [ANALY CHEM] The constant a in the Beer's law relation $A = abc$, where A is the absorbance, b the path

ABSORPTION CYCLE



Basic absorption cycle for an air-conditioning system.

ABSORPTION WAVEMETER



Schematic diagram of inductance-capacitance type of absorption wavemeter (for frequencies between approximately 50 kilohertz and 1000 megahertz).

length, and c the concentration of solution. Also known as absorptive power. Formerly known as absorbcency index; absorption constant; extinction coefficient.

absorptivity-emissivity ratio [ASTROPHYS] In space applications, the ratio of absorptivity for solar radiation of a material to its infrared emissivity. Also known as A/E ratio.

ABS resin See acrylonitrile butadiene styrene resin.

abstract algebra [MATH] The study of mathematical systems consisting of a set of elements, one or more binary operations by which two elements may be combined to yield a third, and several rules (axioms) for the interaction of the elements and the operations; includes group theory, ring theory, and number theory.

abstract automata theory [ADP] The mathematical theory which characterizes automata by three sets: input signals, internal states, and output signals; and two functions: input functions and output functions.

abstraction [HYD] The draining of water from a stream by another having more rapid corroding action.

abstract theory [SCI TECH] A theory in which a system is described without specifying a structure.

abstriction [MYCOL] In fungi, the cutting off of spores in hyphae by formation of septa followed by abscission of the spores, especially by constriction.

abT See gauss.

abterminal [BIOL] Referring to movement from the end toward the middle; specifically, describing the mode of electric current flow in a muscle.

abtesla See gauss.

Abt track [CIV ENG] One of the cogged rails used for railroad tracking in mountains and so arranged that the cogs are not opposite one another on any pair of rails.

Abukuma-type facies [PETR] A type of dynothermal regional metamorphism characterized by low pressure.

abulia [PSYCH] Loss of ability to make decisions.

abundance ratio [NUCLEO] The ratio of the number of atoms of one isotope to the total number of atoms in a mixture of isotopes.

aburton [NAV ARCH] Of an object, having its length directed across a ship from side to side.

abutment [CIV ENG] A surface or mass provided to withstand thrust; for example, end supports of an arch or a bridge.

abvolt [ELEC] The unit of electromotive force in the electromagnetic centimeter-gram-second system; 1 abvolt equals 10^{-8} volt in the absolute meter-kilogram-second system. Abbreviated aV.

abvolt per centimeter [ELEC] The electromagnetic centimeter-gram-second unit of electric field strength. Abbreviated aV/cm.

abwatt [ELEC] The unit of electrical power in the centimeter-gram-second system; 1 abwatt equals 1 watt in the absolute meter-kilogram-second system.

abWb See maxwell.

abweber See maxwell.

abyssal [GEOL] See plutonic. [OCEANOGR] Pertaining to the abyssal zone.

abyssal-benthic [OCEANOGR] Pertaining to the bottom of the abyssal zone.

abyssal cave See submarine fan.

abyssal fan See submarine fan.

abyssal floor [GEOL] The ocean floor, or bottom of the abyssal zone.

abyssal gap [GEOL] A gap in a sill, ridge, or rise that lies between two abyssal plains.

abyssal hill [GEOL] A hill 2000 to 3000 feet (600 to 900 meters) high and a few miles wide within the deep ocean.

abyssal injection [GEOL] The process of driving magmas, originating at considerable depths, up through deep-seated contraction fissures in the earth's crust.

abyssal plain [GEOL] A flat, almost level area occupying the deepest parts of many of the ocean basins.

abyssal rock [GEOL] Plutonic, or deep-seated, igneous rocks.

abyssal theory [GEOL] A theory of the origin of ores involving the separation of ore silicates from the liquid stage during the cooling of the earth.

abyssal zone [OCEANOGR] The biogeographic realm of the

great depths of the ocean beyond the limits of the continental shelf, generally below 1000 meters.

abyssolith [GEOL] A molten mass of eruptive material passing up without a break from the zone of permanently molten rock within the earth.

abyssopelagic [OCEANOGR] Pertaining to the open waters of the abyssal zone.

ac See alternating current.

aC See abcoulomb.

Ac See actinium; altocumulus cloud.

Ac₀ [MET] The temperature at which a magnetic change occurs in cementite; the Curie point of cementite.

Ac₁ [MET] The temperature at which austenite begins to be formed upon heating a steel.

Ac₂ [MET] The Curie point of ferrite.

Ac₃ [MET] The temperature at which the transformation of ferrite to austenite is completed upon heating a steel.

Ac₄ [MET] The temperature at which delta iron is formed from gamma iron upon heating a steel.

acacia gum See gum arabic.

Acadian orogeny [GEOL] The period of formation accompanied by igneous intrusion that took place during the Middle and Late Devonian in the Appalachian Mountains.

Acacia [BOT] A type of cotton indigenous to Mexico and cultivated in Texas, Oklahoma, and Arkansas.

acalyculate [BOT] Lacking a calyx.

Acalyptidae [INV ZOO] A large group of small, two-winged flies in the suborder Cyclorhapha characterized by small or rudimentary calypters.

acantha [BIOL] A sharp spine; a spiny process, as on vertebrate.

Acanthaceae [BOT] A family of dicotyledonous plants in the order Scrophulariales distinguished by their usually herbaceous habit, irregular flowers, axile placentation, and dry, dehiscent fruits.

acanthaceous [BOT] Having sharp points or prickles; prickly.

Acantharia [INV ZOO] A subclass of essentially pelagic protozoans in the class Actinopodea characterized by skeletal rods constructed of strontium sulfate (celestite).

Acanthaster [INV ZOO] A genus of Indo-Pacific starfishes, including the crown-of-thorns, of the family Asteriidae; economically important as a destroyer of oysters in fisheries.

acanthella [INV ZOO] A transitional larva of the phylum Acanthocephala in which rudiments of reproductive organs, lemnisci, a proboscis, and a proboscis receptacle are formed.

acanthine [BOT] Relating to or resembling the leaves of the acanthus plant.

acanthite [MINERAL] Ag₂S A blackish to lead-gray silver sulfide mineral, crystallizing in the orthorhombic system.

acanthocarpous [BOT] Having spiny fruit.

Acanthocephala [INV ZOO] The spiny-headed worms, a phylum of helminths; adults are parasitic in the alimentary canal of vertebrates.

Acanthocheilonema perstans [INV ZOO] A tropical filarial worm, parasitic in man.

acanthocheilonemiasis [MED] A parasitic infection of man caused by the filarial nematode *Acanthocheilonema perstans*.

acanthocladius [BOT] Having spiny branches.

acanthocytosis [MED] A disorder of erythrocytes in which spiny projections appear on the blood cells.

Acanthodes [PALEON] A genus of Carboniferous and Lower Permian eellike acanthodian fishes of the family Acanthodidae.

Acanthodidae [PALEON] A family of extinct acanthodian fishes in the order Acanthodiformes.

Acanthodiformes [PALEON] An order of extinct fishes in the class Acanthodii having scales of acellular bone and dentine, one dorsal fin, and no teeth.

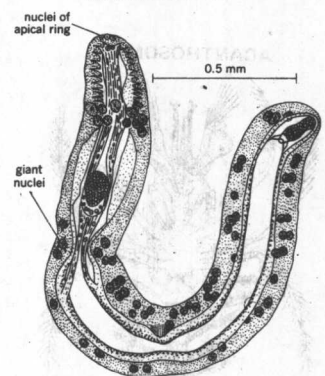
Acanthodii [PALEON] A class of extinct fusiform fishes, the first jaw-bearing vertebrates in the fossil record.

acanthoid [BIOL] Shaped like a spine.

Acanthometrida [INV ZOO] An order of marine protozoans in the subclass Acantharia with 20 or less skeletal rods.

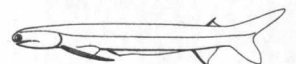
Acanthophis antarcticus [VERT ZOO] The death adder, a venomous snake found in Australia and New Guinea; venom is neurotoxic.

ACANTHELLA



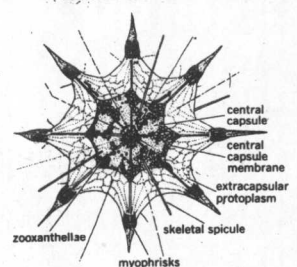
A stage in the life history of *Moniliformis dubius*, a helminth, with the acanthella dissected from its enveloping sheath.

ACANTHODES

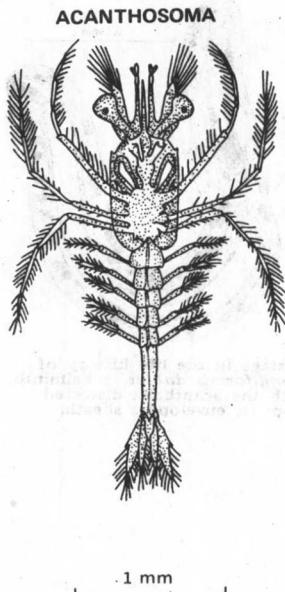


A lateral view of *Acanthodes* species, about 30 centimeters long. (After D. M. S. Watson)

ACANTHOMETRIDA



A drawing of *Acanthometra* showing the characteristic pattern of the radially arranged rods (skeletal spicules). (From L. H. Hyman, *The Invertebrates*, vol. 1, McGraw-Hill, 1940)



The mysis (acanthosoma) larva of sergestid shrimp. (Smithsonian Institution)

Acanthophractida [INV ZOO] An order of marine protozoans in the subclass Acantharia; skeleton includes a latticework shell and skeletal rods.

acanthopodous [BOT] Having a spiny or prickly petiole or peduncle.

acanthopore [PALEON] A tubular spine in some fossil bryozoans.

Acanthopteri [VERT ZOO] An equivalent name for the Perciformes.

Acanthopterygii [VERT ZOO] An equivalent name for the Perciformes.

acanthosis [MED] Any thickening of the prickly-cell layer of the epidermis; associated with many skin diseases.

acanthosoma [INV ZOO] The last primitive larval stage, the mysis, in the family Sergestidae.

Acanthosomatidae [INV ZOO] A small family of insects in the order Hemiptera.

acanthosphere [BOT] A specialized ciliated body in *Nitella* cells.

acanthostegous [INV ZOO] Being overlaid with two series of spines, as the ovicell or oecium of certain bryozoans.

acanthozoid [INV ZOO] A specialized individual in a bryozoan colony that secretes tubules which project as spines above the colony's outer surface.

Acanthuridae [VERT ZOO] The surgeonfishes, a family of perciform fishes in the suborder Acanthuroidei.

Acanthuroidei [VERT ZOO] A suborder of chiefly herbivorous fishes in the order Perciformes.

acanthus [ARCH] A sculptured ornamentation representing the leaves of an *Acanthus*, a Mediterranean prickly herb.

acapnia [MED] Absence of carbon dioxide in the blood and tissues.

Acar [INV ZOO] The equivalent name for Acarina.

acarialis [MED] Any skin disease resulting from infestation with acarids or mites.

acaricide [MATER] A pesticide used to destroy mites on domestic animals, crops, and man. Also known as miticide.

Acaridae [INV ZOO] A group of pale, weakly sclerotized mites in the suborder Sarcopiformes, including serious pests of stored food products and skin parasites of warm-blooded vertebrates.

Acarina [INV ZOO] The ticks and mites, a large order of the class Arachnida, characterized by lack of body demarcation into cephalothorax and abdomen.

acaroid resin [ORG CHEM] A gum resin from certain aloelike trees of the genus *Xanthorrhoea* in Australia and Tasmania; used in varnishes and inks. Also known as gum accroides; yacca gum.

acarology [INV ZOO] A branch of zoology dealing with the mites and ticks.

acarophily [ECOL] A symbiotic relationship between plants and mites.

acarophobia [PSYCH] Abnormal fear of mites.

acarpellous [BOT] Lacking carpels.

acarpous [BOT] Not producing fruit.

acatalasemia [MED] Lack of catalase in the blood.

acatalasia [MED] Congenital absence of the enzyme catalase.

acatamathesia [MED] 1. Inability to understand conversation. 2. Morbid blunting or deterioration of the senses, as in mental deafness and blindness.

acaulous [BOT] 1. Lacking a stem. 2. Being apparently stemless but having a short underground stem.

acaustobiolith [PETR] A noncombustible organic rock, or one formed by organic accumulation of minerals.

acaustophytolith [PETR] An acaustobiolith resulting from plant activity, such as a pelagic ooze that contains diatoms.

accelerated erosion [GEOL] The process of weathering at a rate greater than normal for the site, brought about by man, usually through reduction of the vegetation.

accelerated hypertension See malignant hypertension.

accelerated test [ELEC] A test of the serviceability of an electric cable in use for some time by applying twice the voltage normally carried.

accelerating agent [MATER] 1. A substance which increases the speed of a chemical reaction. 2. A compound which hastens and improves the curing of rubber.

accelerating electrode [ELECTR] An electrode used in cathode-ray tubes and other electron tubes to increase the velocity of the electrons that contribute the space current or form a beam.

accelerating incentive See differential piece-rate system.

acceleration [MECH] The rate of change of velocity with respect to time.

acceleration analysis [MECH ENG] A mathematical technique, often done graphically, by which accelerations of parts of a mechanism are determined.

acceleration error [NAV] That error resulting from change in a craft's velocity vector: specifically, either the deviation of an aircraft magnetic compass caused by the action of the vertical component of the earth's magnetic field on the compass magnets when the compass card is thrown off level by accelerations of the aircraft; or the deflection of the apparent vertical, as indicated by an artificial horizon, due to acceleration.

acceleration error constant [CONT SYS] The ratio of the acceleration of a controlled variable of a servomechanism to the actuating error when the actuating error is constant.

acceleration feedback [AERO ENG] The use of accelerometers strategically located within the body of a missile so that they sense body accelerations during flight and interact with another device on board the missile or with a control center on the ground or in an airplane to keep the missile's speed within design limits.

acceleration globulin [BIOCHEM] A globulin that acts to accelerate the conversion of prothrombin to thrombin in blood clotting; found in blood plasma in an inactive form.

acceleration measurement [MECH] The technique of determining the magnitude and direction of acceleration, including translational and angular acceleration. [NAV] A fundamental measurement required for the operation of the inertial navigator.

acceleration mechanisms [ASTROPHYS] The ways in which cosmic-ray and solar-flare particles may have acquired their high energies.

acceleration of gravity [MECH] The acceleration imparted to bodies by the attractive force of the earth; has an international standard value of 980.665 cm/sec² but varies with latitude and elevation. Also known as apparent gravity.

acceleration stress [MED] The effect of an increase in gravitational force upon man's physiology and behavior, particularly during takeoff and reentry in space flight.

acceleration time [ADP] The time required for a magnetic tape transport or any other mechanical device to attain its operating speed.

acceleration tolerance [ENG] The degree to which personnel or equipment withstands acceleration. [PHYSIO] The maximum *g* forces an individual can withstand without losing control or consciousness.

acceleration voltage [ELECTR] The voltage between a cathode and accelerating electrode of an electron tube.

accelerator [MATER] Any substance added to stucco, plaster, mortar, concrete, cement, and so on to hasten the set. [MECH ENG] A device for varying the speed of an automotive vehicle by varying the supply of fuel. [PHYS] See particle accelerator.

accelerator catalyst [MATER] A catalyst that increases the rate of a chemical reaction.

accelerator jet [MECH ENG] The jet through which the fuel is injected into the incoming air in the carburetor of an automotive vehicle with rapid demand for increased power output.

accelerator linkage [MECH ENG] The linkage connecting the accelerator pedal of an automotive vehicle to the carburetor throttle valve or fuel injection control.

accelerator pedal [MECH ENG] A pedal that operates the carburetor throttle valve or fuel injection control of an automotive vehicle.

accelerator pump [MECH ENG] A small cylinder and piston controlled by the throttle of an automotive vehicle so as to provide an enriched air-fuel mixture during acceleration.

acceleratory reflex [PHYSIO] Any reflex originating in the labyrinth of the inner ear in response to a change in the rate of movement of the head.

accelerogram [ENG] A record made by an accelerograph.

accelerograph [ENG] An accelerometer having provisions for recording the acceleration of a point on the earth during an earthquake or for recording any other type of acceleration.

accelerometer [PHYS] A transducer which measures acceleration or gravitational force capable of imparting acceleration.

accelofilter [CHEM] A filtration device that uses a vacuum or pressure to draw or force the liquid through the filter to increase the rate of filtration.

accentuation [ELECTR] The enhancement of signal amplitudes in selected frequency bands with respect to other signals.

accentuator [ELECTR] A circuit that provides for the first part of a process for increasing the strength of certain audio frequencies with respect to others, to help these frequencies override noise or to reduce distortion. Also known as accentuator circuit.

accentuator circuit See accentuator.

accept [ADP] A data transmission statement which is used in FORTRAN when the computer is in conversational mode, and which enables the programmer to input, through the teletypewriter, data the programmer wishes stored in memory.

acceptability [ENG] State or condition of meeting minimum standards for use, as applied to methods, equipment, or consumable products.

acceptable quality level [IND ENG] The percentage of defects that has been determined tolerable by a sampling plan during inspection or test of a product with respect to economic and functional requirements of the item. Abbreviated AQL.

acceptable reliability level [IND ENG] The required level of reliability for a part, system, device, and so forth; may be expressed in a variety of terms, for example, number of failures allowable in 1000 hours of operating life. Abbreviated ARL.

acceptance criteria [IND ENG] Standards of judging the acceptability of manufactured items.

acceptance number [IND ENG] The maximum allowable number of defective pieces in a sample of specified size.

acceptance test [IND ENG] A test used to determine conformance of a product to design specifications, as a basis for its acceptance.

accepted indicator [NAV] An airborne indicator which has been proven capable of accurate and reliable measurement.

acceptor [CHEM] 1. A chemical whose reaction rate with another chemical increases because the other substance undergoes another reaction. 2. A species that accepts electrons, protons, electron pairs, or molecules such as dyes. [SOLID STATE] An impurity element that increases the number of holes in a semiconductor crystal such as germanium or silicon; aluminum, gallium, and indium are examples. Also known as acceptor impurity; acceptor material.

acceptor atom [SOLID STATE] An atom of a substance added to a semiconductor crystal to increase the number of holes in the conduction band.

acceptor circuit [ELECTR] A series-resonant circuit that has a low impedance at the frequency to which it is tuned and a higher impedance at all other frequencies.

acceptor impurity See acceptor.

acceptor material See acceptor.

access [ADP] The reading of data from storage or the writing of data into storage. [CIV ENG] Freedom, ability, or the legal right to pass without obstruction from a given point on earth to some other objective, such as the sea or a public highway.

access arm [ADP] The mechanical device which positions the read/write head on a magnetic storage unit.

access code [COMMUN] 1. Numeric identification for inter-network or facility switching. 2. The preliminary digits that a user must dial to be connected through an automatic PBX to the serving switching center, as in AUTOVON.

access-control register [ADP] A storage device which controls the word-by-word transmission over a given channel.

access-control words [ADP] Permanently wired instructions channeling transmitted words into reserved locations.

access door [BUILD] A provision for access to concealed plumbing or other equipment without disturbing the wall or fixtures.

access line [COMMUN] Four-wire circuit between a subscriber or a local PBX to the serving switching center.

access method [ADP] A set of programming routines which links programs and the data that these programs transfer into and out of memory.

access mode [ADP] A programming clause in COBOL which is required when using a random-access device so that a specific record may be read out of or written into a mass storage bin.

accessorius [ANAT] Any muscle that reinforces the action of another.

accessory [MECH ENG] A part, subassembly, or assembly that contributes to the effectiveness of a piece of equipment without changing its basic function; may be used for testing, adjusting, calibrating, recording, or other purposes.

accessory bud [BOT] An embryonic shoot occurring above or to the side of an axillary bud. Also known as supernumerary bud.

accessory cell [BOT] A morphologically distinct epidermal cell adjacent to, and apparently functionally associated with, guard cells on the leaves of many plants.

accessory chromosome See supernumerary chromosome.

accessory cloud [METEOROL] A cloud form that is dependent, for its formation and continuation, upon the existence of one of the major cloud genera; may be an appendage of the parent cloud or an immediately adjacent cloudy mass.

accessory ejecta [GEOL] Pyroclastic material formed from solidified volcanic rocks that are from the same volcano as the ejecta.

accessory element See trace element.

accessory gland [ANAT] A mass of glandular tissue separate from the main body of a gland. [INV ZOO] A gland associated with the male reproductive organs in insects.

accessory mineral [MINERAL] A minor mineral in an igneous rock that does not affect its general character.

accessory movement See synkinesia.

accessory nerve [ANAT] The eleventh cranial nerve in tetrapods, a paired visceral motor nerve; the bulbar part innervates the larynx and pharynx, and the spinal part innervates the trapezius and sternocleidomastoid muscles.

accessory plate [OPTICS] Thin plate of quartz, gypsum, or mica used with a petrological microscope to modify the effects of polarized light and intensify qualities in translucent minerals.

access road [CIV ENG] A route, usually paved, that enables vehicles to reach a designated facility expeditiously.

access time [ADP] The time period required for reading out of or writing into the computer memory. Also known as read time.

access tunnel [CIV ENG] A tunnel provided for an access road.

accident [HYD] An interruption in a river that interferes with, or sometimes stops, the normal development of the river system.

accidental ejecta [GEOL] Pyroclastic rock formed from pre-existing nonvolcanic rocks or from volcanic rocks unrelated to the erupting volcano.

accidental error [SCI TECH] In experimental observations, an error which does not always recur when an observation is repeated under the same conditions.

accidental inclusion See xenolith.

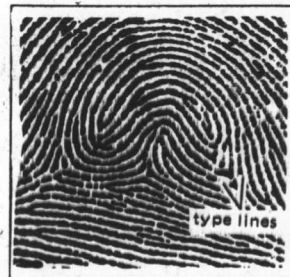
accidental point [GRAPHICS] The vanishing point of a group of lines in a perspective drawing that are parallel neither to the line of sight nor to the horizon.

accidental whorl [ANAT] A type of whorl fingerprint pattern which is a combination of two different types of pattern, with the exception of the plain arch, with two or more deltas; or a pattern which possesses some of the requirements for two or more different types; or a pattern which conforms to none of the definitions; in accidental whorl tracing three types appear: an outer (O), inner (I), or meeting (M).

accident block [GEOL] A solid chip of rock broken off from the subvolcanic basement and ejected from a volcano.

accident-cause code [IND ENG] Sponsored by the American Standards Association, the code that classifies accidents under eight defective working conditions and nine improper working practices.

ACCIDENTAL WHORL



A reproduction of an I tracing of an accidental whorl.
(Federal Bureau of Investigation)

accident frequency rate [IND ENG] The number of all disabling injuries per million man-hours of exposure.

accident prone [MED] Predisposed to sustain more accidents than others exposed to the same hazard.

accident severity rate [IND ENG] The number of man-days lost as a result of disabling injuries per thousand man-hours of exposure.

Accipitridae [VERT ZOO] The diurnal birds of prey, the largest and most diverse family of the order Falconiformes, including hawks, eagles, and kites.

acclimated microorganism [ECOL] Any microorganism that is able to adapt to environmental changes such as a change in temperature, or a change in the quantity of oxygen or other gases.

acclimation See acclimatization.

acclimatization [EVOL] Adaptation of a species or population to a changed environment over several generations. Also known as acclimation.

acclivity [GEOL] A slope that is ascending from a reference point.

aCcm See abcoulomb centimeter.

Ac_{cm} [MET] The temperature at which the solution of cementite in austenite is completed upon heating a hypereutectoid steel.

aC/cm² See abcoulomb per square centimeter.

aC/cm³ See abcoulomb per cubic centimeter.

accolade [ARCH] Decorative molding in which two ogee curves meet centrally over the top of a window or door.

accommodation [MAP] The limits or range within which a stereo-plotting instrument is capable of operating. [PHYSIO] A process in most vertebrates whereby the focal length of the eye is changed by automatic adjustment of the lens to bring images of objects from various distances into focus on the retina.

accommodation coefficient [STAT MECH] The ratio of the average energy actually transferred between a surface and impinging gas molecules scattered by the surface, to the average energy which would theoretically be transferred if the impinging molecules reached complete thermal equilibrium with the surface.

accommodation ladder [NAV ARCH] A light ladder or similar structure, usually portable, hung over a ship's side at the gangway to permit access to small boats.

accommodation reflex [PHYSIO] Changes occurring in the eyes when vision is focused from a distant to a near object; involves pupil contraction, increased lens convexity, and convergence of the eyes.

accordant fold [GEOL] One of several folds that are similarly oriented.

accordant summit level [GEOL] A hypothetical horizontal plane that can be drawn over a broad region connecting mountain summits of similar elevation.

accordion door [BUILD] A door that folds and unfolds like an accordion when it is opened and closed.

accordion roller conveyor [MECH ENG] A conveyor with a flexible latticed frame which permits variation in length.

accounting machine [ADP] A machine that produces tabulations or accounting records of a specified unvarying format.

accouplement [ARCH] A pair of elements of a structure that are very close or touching, such as two columns.

acrescent [BOT] Growing continuously with age, especially after flowering.

accretion [CIV ENG] Artificial buildup of land due to the construction of a groin, breakwater, dam, or beach fill. [GEOL] 1. Gradual buildup of land on a shore due to wave action, tides, currents, airborne material, or alluvial deposits. 2. The process whereby stones or other inorganic masses add to their bulk by adding particles to their surfaces. Also known as aggradation. [METEOROL] The growth of a precipitation particle by the collision of a frozen particle (ice crystal or snowflake) with a supercooled liquid droplet which freezes upon contact.

accretionary lapilli See mud ball.

accretionary lava ball [GEOL] A rounded ball of lava, that occurs on the surface of an aa lava flow.

accretionary limestone [PETR] A type of limestone formed by the slow accumulation of organic remains.

accretionary ridge [GEOL] A beach ridge located inland from the modern beach, indicating that the coast has been built seaward.

accretion hypothesis [ASTRON] Any hypothesis which assumes that the earth originated by the gradual addition of solid bodies, such as meteorites, that were formerly revolving about the sun but were drawn by gravitation to the earth.

accretion line [HISTOL] A microscopic line on a tooth, marking the addition of a layer of enamel or dentin.

accretion theory [ASTRON] A theory that the solar system originated from vortices in a disk-shaped mass.

accretion topography [GEOL] Topographic features built by accumulation of sediment.

accretion vein [GEOL] A type of vein formed by the repeated filling of channels followed by their opening because of the development of fractures in the zone undergoing mineralization.

accretion zone [GEOL] Any beach area undergoing accretion.

accumbent [BOT] Describing an organ that leans against another; specifically referring to cotyledons having their edges folded against the hypocotyl.

accumulated discrepancy [ENG] The sum of the separate discrepancies which occur in the various steps of making a survey.

accumulated divergence [MAP] In making a map, the algebraic sum of the divergences for the sections of a line of levels, from the beginning of the line to any section end at which it is desired to compute the total divergence.

accumulated temperature [METEOROL] In Britain, the accumulated excess of temperature above 42°F (5.6°C). Also known as cumulative temperature.

accumulated total punching [ADP] A checking procedure to ensure that no punch-card item has been dropped from a file.

accumulating reproducer [ADP] An electromechanical device which reads a sorted deck of cards and creates a set of subtotals on additional cards according to some preset criterion.

accumulation [HYD] The quantity of snow or other solid form of water added to a glacier or snowfield by alimantation. [MIN ENG] 1. In coal mining, firedamp that collects in higher parts of mine workings and at the edge of wastes. 2. Oil or gas in some form of trap.

accumulation area [HYD] The portion of a glacier above the firn line, where the accumulation exceeds ablation. Also known as firn field; zone of accumulation.

accumulation factor [MATH] The quantity $(1+r)$ in the formula for compound interest, where r is the rate of interest; measures the rate at which the principal grows.

accumulation point See cluster point.

accumulation zone [GEOL] The area where the bulk of the snow contributing to an avalanche was originally deposited.

accumulative error See cumulative error.

accumulative timing [IND ENG] A time-study method that allows direct reading of the time for each element of an operation by the use of two stopwatches which operate independently and exclusive of each other.

accumulator [ADP] A specific register, in the arithmetic unit of a computer, in which the result of an arithmetic or logical operation is formed; here numbers are added or subtracted, and certain operations such as sensing, shifting, and complementing are performed. Also known as accumulator register; counter. [AERO ENG] A device sometimes incorporated in the fuel system of a gas-turbine engine to store fuel and release it under pressure as an aid in starting. [ELEC] See storage battery. [MECH ENG] 1. A device, such as a bag containing pressurized gas, which acts upon hydraulic fluid in a vessel, discharging it rapidly to give high hydraulic power, after which the fluid is returned to the vessel with the use of low hydraulic power. 2. A device connected to a steam boiler to enable a uniform boiler output to meet an irregular steam demand.

accumulator battery See storage battery.

accumulator jump instruction [ADP] An instruction which programs a computer to ignore the previously established program sequence depending on the status of the accumulator. Also known as accumulator transfer instruction.

accumulator plant [BOT] A plant or tree that grows in a metal-bearing soil and accumulates an abnormal content of the metal.

accumulator register See accumulator.

accumulator shift instruction [ADP] A computer instruction which causes the word in a register to be displaced a specified number of bit positions to the left or right.

accumulator transfer instruction See accumulator jump instruction.

accuracy [SCI TECH] The extent to which the results of a calculation or the readings of an instrument approach the true values of the calculated or measured quantities, and are free from error.

accuracy checking [MAP] The procurement of presumptive evidence of a map's compliance with specified accuracy standards; indicates the relative (rather than the absolute) accuracy of map features.

accuracy control system [ADP] Any method which attempts error detection and control, such as random sampling and squaring.

accuracy life [ORD] The estimated average number of rounds that a particular weapon can fire before its tube becomes so worn that its accuracy tolerance is exceeded.

accuracy of fire [ORD] The measurement of the precision of fire expressed as the distance of the center of impact from the center of the target.

accuracy testing [MAP] The procurement of confirmed evidence, on a sampling basis, of a map's compliance with specified accuracy standards; indicates both the relative and absolute accuracy of map features.

accurate contour [MAP] A contour line whose accuracy lies within one-half of the basic vertical interval. Also known as normal contour.

accustomization [ENG] The process of learning the techniques of living with a minimum of discomfort in an extreme or new environment.

ac/dc motor [ELEC] A motor which operates on either alternating or direct current.

ac/dc receiver [ELECTR] A radio receiver designed to operate from either an alternating- or direct-current power line. Also known as universal receiver.

Acele [TEXT] Trade name of an acetate fiber made by DuPont.

acellular [BIOL] Not composed of cells.

acellular gland [PHYSIO] A gland, such as intestinal glands, the pancreas, and the parotid gland, that secretes a noncellular product.

acellular slime mold [MYCOL] The common name for members of the Myxomycetes.

Ac-Em See actinon.

acenaphthene [ORG CHEM] $C_{12}H_8$ An unsaturated hydrocarbon whose colorless crystals melt at 92°C; insoluble in water; used as a dye intermediate and as an agent for inducing polyploidy.

acentric [BIOL] Not oriented around a middle point. [GEN] A chromosome or chromosome fragment lacking a centromere.

acentrous [VERT ZOO] Lacking vertebral centra and having the notochord persistent throughout life, as in certain primitive fishes.

Acephalina [INV ZOO] A suborder of invertebrate parasites in the protozoan order Eugregarinida characterized by nonseparate trophozoites.

acephalobranchia See abrachiocephalia.

acephalocardia [MED] Congenital lack of a head and a heart.

acephalochiria [MED] Congenital lack of a head and hands.

acephalocyst [INV ZOO] An abnormal cyst of the *Echinococcus granulosus* larva, lacking a head and brood capsules, found in human organs.

acephalopodia [MED] Congenital lack of a head and feet.

acephalorrhachia [MED] Congenital lack of a head and vertebral column.

acephalostomia [MED] Congenital lack of a head, with a mouthlike orifice in the neck or chest.

acephalothoracica [MED] Congenital lack of a head and thorax.

acephalous [BOT] Having the style originate at the base

instead of at the apex of the ovary. [ZOO] Lacking a head.

Acer [BOT] A genus of broad-leaved, deciduous trees of the order Sapindales, commonly known as the maples; the sugar or rock maple (*A. saccharum*) is the most important commercial species.

acerate [BOT] Needle-shaped, specifically referring to leaves.

acerbophobia [PSYCH] Abnormal fear of sour taste sensations. Also known as acerophobia.

Acerentomidae [INV ZOO] A family of wingless insects belonging to the order Protura; the body lacks tracheae and spiracles.

acerophobia See acerbophobia.

acervate [BIOL] Growing in heaps or dense clusters.

acervulus [MYCOL] A cushion- or disk-shaped mass of hyphae, peculiar to the Melanconiales, on which there are dense aggregates of conidiophores.

acetabulum [ANAT] A cup-shaped socket on the hipbone that receives the head of the femur. [INV ZOO] 1. A cavity on an insect body into which a leg inserts for articulation. 2. The sucker of certain invertebrates such as trematodes and tapeworms.

acetal [ORG CHEM] 1. $CH_3CH(OC_2H_5)_2$ A colorless, flammable, volatile liquid used as a solvent and in manufacture of perfumes. Also known as 1,1-diethoxyethane. 2. Any of a class of compounds, stable ethers, formed from aldehydes and 1,1-dihydroxy alcohols.

acetaldehydease [BIOCHEM] An enzyme that catalyzes the oxidation of acetaldehyde to acetic acid.

acetaldehyde [ORG CHEM] C_2H_4O A colorless, flammable liquid used chiefly to manufacture acetic acid. Also known as ethanal.

para-acetaldehyde See paraldehyde.

acetaldehyde cyanohydrin See lactonitrile.

acetal resins [ORG CHEM] Linear, synthetic resins produced by the polymerization of formaldehyde (acetal homopolymers) or of formaldehyde with trioxane (acetal copolymers); hard, tough plastics used as substitutes for metals. Also known as polyacetals.

acetamide [ORG CHEM] CH_3CONH_2 The crystalline, colorless amide of acetic acid, used in organic synthesis and as a solvent. Also known as ethanamide.

acetaminophen [PHARM] $C_8H_9O_2N$ A drug used as an analgesic and antipyretic.

acetanilide [PHARM] $C_6H_5NHCOCH_3$ A white, crystalline compound used medicinally to relieve pain and reduce fever.

acetanilidine See methacetin.

acetate [ORG CHEM] One of two compounds derived from acetic acid, $HC_2H_3O_2$; one type is the negative acetate ion, $C_2H_3O_2^-$; the second type is an ester such as ethyl acetate. [TEXT] The official name for the textile fiber produced from partially hydrolyzed cellulose acetate. Formerly known as acetate rayon.

acetate film [MATER] A cellulose acetate resin sheet that is transparent, airproof, hygienic, and resistant to grease, oil, and dust; used for photographic film, magnetic tapes, and packaging.

acetate process [CHEM ENG] Acetylation of cellulose (wood pulp or cotton linters) with acetic acid or acetic anhydride and sulfuric acid catalyst to make cellulose acetate resin or fiber.

acetate rayon See acetate.

acetynyl See ethinyl.

acetic acid [ORG CHEM] CH_3COOH 1. A clear, colorless liquid or crystalline mass with a pungent odor, miscible with water or alcohol; crystallizes in deliquescent needles; a component of vinegar. Also known as ethanoic acid. 2. A mixture of the normal and acetic salts; used as a mordant in the dyeing of wool.

acetic acid bacteria See Acetobacter.

acetic anhydride [ORG CHEM] $(CH_3CO)_2O$ A liquid with a pungent odor that combines with water to form acetic acid; used as an acetylating agent.

acetic ester See ethyl acetate.

acetic ether See ethyl acetate.

acetic fermentation [MICROBIO] Oxidation of alcohol to pro-

duce acetic acid by the action of bacteria of the genus *Acetobacter*.

acetic thiolkinase [BIOCHEM] An enzyme that catalyzes the formation of acetyl coenzyme A from acetate and adenosine-triphosphate.

acetidin See ethyl acetate.

acelin [ORG CHEM] An ester of acetic acid made by heating glycerin and acetic acid together; used as a solvent and in explosives. Also spelled acetine.

acetine See acelin.

acetoacetate [ORG CHEM] A salt containing the $\text{CH}_3\text{COCH}_2\text{COO}^-$ radical; derived from acetoacetic acid.

acetoacetic acid [ORG CHEM] $\text{CH}_3\text{COCH}_2\text{COOH}$ A colorless liquid miscible with water; derived from β -hydroxybutyric acid in the body.

acetoacetic ester See ethyl acetoacetate.

acetoacetyl coenzyme A [BIOCHEM] $\text{C}_{25}\text{H}_{41}\text{O}_{12}\text{N}_7\text{P}_3\text{S}$ An intermediate product in the oxidation of fatty acids.

Acetobacter [MICROBIO] A genus of aerobic, peritrichously flagellated bacteria in the family *Achromobacteraceae*. Also known as acetic acid bacteria; vinegar bacteria.

Acetobacter aceti [MICROBIO] An aerobic, rod-shaped bacterium capable of efficient oxidation of glucose, ethyl alcohol, and acetic acid; found in vinegar, beer, and souring fruits and vegetables.

Acetobacter suboxydans [MICROBIO] A short, nonmotile vinegar bacterium that can oxidize ethanol to acetic acid; useful for industrial production of ascorbic and tartaric acids.

acetoin [ORG CHEM] $\text{CH}_3\text{COCHOHCH}_3$ A colorless liquid; a condensation product of two molecules of acetic acid. Also known as acetyl methylcarbinol; 3-hydroxy-2-butanone.

acetol [ORG CHEM] $\text{CH}_3\text{COCH}_2\text{OH}$ A colorless liquid soluble in water; a reducing agent. Also known as 1-hydroxy-2-propanone.

acetylactic acid [BIOCHEM] $\text{C}_5\text{H}_8\text{O}_4$ A monocarboxylic acid formed as an intermediate in the synthesis of the amino acid valine.

acetylols [ORG CHEM] Decomposition of an organic molecule through the action of acetic acid or acetic anhydride.

Acetomonas [MICROBIO] A genus of aerobic, polarly flagellated vinegar bacteria in the family *Pseudomonadaceae*; used industrially to produce vinegar, gluconic acid, and L-sorbose.

acetone [ORG CHEM] CH_3COCH_3 A colorless, volatile, extremely flammable liquid, miscible with water; used as a solvent and reagent. Also known as 2-propanone.

acetone-benzol process [CHEM ENG] A dewaxing process in petroleum refining, with acetone and benzol used as solvents.

acetone body See ketone body.

acetone cyanohydrin [ORG CHEM] $(\text{CH}_3)_2\text{COHCN}$ A colorless liquid obtained from condensation of acetone with hydrocyanic acid; used as an insecticide or as an organic chemical intermediate.

acetone fermentation [MICROBIO] Formation of acetone by the metabolic action of certain anaerobic bacteria on carbohydrates.

acetone glucose See acetone sugar.

acetonemia [MED] A condition characterized by large amounts of acetone bodies in the blood. Also known as ketonemia.

acetone number [CHEM] A ratio used to estimate the degree of polymerization of materials such as drying oils; it is the weight in grams of acetone added to 100 grams of a drying oil to cause an insoluble phase to form.

acetone pyrolysis [ORG CHEM] Thermal decomposition of acetone into ketene.

acetone sugar [ORG CHEM] Any reducing sugar that contains acetone; examples are 1,2-monoacetone-D-glucofuranose and 1,2,5,6-diacetone-D-glucofuranose. Also known as acetone glucose.

acetonitrile [ORG CHEM] CH_3CN A colorless liquid soluble in water; used in organic synthesis. Also known as ethane nitrile; methyl cyanide.

acetophenone [ORG CHEM] $\text{C}_6\text{H}_5\text{COCH}_3$ Colorless crystals with a melting point of 19.6°C and a specific gravity of 1.028; used as a chemical intermediate. Also known as phenyl methyl ketone.

acetyl [ORG CHEM] $\text{CH}_3\text{CO}-$ A two-carbon organic radical containing a methyl group and a carbonyl group.

acetylacetone [ORG CHEM] $\text{CH}_3\text{COCH}_2\text{COCH}_3$ A colorless liquid. Also known as 2,4-pentanedione.

acetylase [BIOCHEM] Any enzyme that catalyzes the formation of acetyl esters.

acetylating agent [ORG CHEM] A reagent, such as acetic anhydride, capable of bonding an acetyl group onto an organic molecule.

acetylation [ORG CHEM] The process of bonding an acetyl group onto an organic molecule.

acetylcholine [BIOCHEM] $\text{C}_7\text{H}_{17}\text{O}_3\text{N}$ A compound released from certain autonomic nerve endings which acts in the transmission of nerve impulses to excitable membranes.

acetylcholinesterase [BIOCHEM] An enzyme found in excitable membranes that inactivates acetylcholine.

acetyl coenzyme A [BIOCHEM] $\text{C}_{25}\text{H}_{39}\text{O}_{17}\text{N}_7\text{P}_3\text{S}$ A coenzyme, derived principally from the metabolism of glucose and fatty acids, that takes part in many biological acetylation reactions; oxidized in the Krebs cycle.

acetylene [ORG CHEM] C_2H_2 A colorless, highly flammable gas that is explosive when compressed; the simplest compound containing a triple bond; used in organic synthesis and as a welding fuel. Also known as ethyne.

acetylene black [ORG CHEM] A form of carbon with high electrical conductivity; made by decomposing acetylene by heat.

acetylene cutting See oxyacetylene cutting.

acetylene dichloride See sym-dichloroethylene.

acetylene generator [ENG] A steel cylinder or tank that provides for controlled mixing of calcium carbide and water to generate acetylene.

acetylene series [ORG CHEM] A series of unsaturated aliphatic hydrocarbons, each containing at least one triple bond and having the general formula $\text{C}_n\text{H}_{2n-2}$.

acetylene tetrachloride See sym-tetrachloroethane.

acetylene torch See oxyacetylene torch.

acetylene welding See oxyacetylene welding.

acetylenic [ORG CHEM] Pertaining to acetylene or being like acetylene, such as having a triple bond.

acetylenyl See ethynyl.

acetylde [ORG CHEM] A compound formed from acetylene with the H atoms replaced by metals, as in cuprous acetylde (Cu_2C_2).

acetyl ketene See diketene.

acetylmethylcarbinol See acetoin.

acetyl number [ANALY CHEM] A measure of free hydroxyl groups in fats or oils determined by the amount of potassium hydroxide used to neutralize the acetic acid formed by saponification of acetylated fat or oil.

acetyl phosphate [BIOCHEM] $\text{C}_2\text{H}_3\text{O}_5\text{P}$ The anhydride of acetic and phosphoric acids occurring in the metabolism of pyruvic acid by some bacteria; phosphate is used by some microorganisms, in place of ATP, for the phosphorylation of hexose sugars.

acetylpropionic acid See levulinic acid.

acetylsalicylic acid [ORG CHEM] $\text{CH}_3\text{COOC}_6\text{H}_4\text{COOH}$ A white, crystalline, weakly acidic substance, with melting point 137°C ; slightly soluble in water; used medicinally as an antipyretic. Also known by trade name aspirin.

acetylurea [ORG CHEM] $\text{CH}_3\text{CONHCONH}_2$ Crystals that are colorless and are slightly soluble in water.

AOF diagram [PETRO] A triangular diagram showing the chemical character of a metamorphic rock; the three components plotted are $\text{A} = \text{Al}_2\text{O}_3 + \text{Fe}_2\text{O}_3 - (\text{Na}_2\text{O} + \text{K}_2\text{O})$, $\text{C} = \text{CaO}$, $\text{F} = \text{FeO} + \text{MgO} + \text{MnO}$.

aohm See actual cubic feet per minute.

a-c fracture [CRYSTAL] A type of tension fracture lying parallel to the a-c fabric plane and normal to plane b in a crystal.

a-c girdle [GEOLOG] A girdle of points in a petrofabric diagram that have a trend parallel with the plane of the a and c fabric axes.

Achaenodontidae [PALEON] A family of Eocene dichobunoids, piglike mammals belonging to the suborder Palaeodonta.

achalasia [MED] Inability of a hollow muscular organ or ring of muscle (sphincter) to relax.

achalasia of the cardia [MED] Enlargement of the esophagus as a result of cardiospasm.

ache [MED] A constant dull or throbbing pain.

acheb [ECOL] Short-lived vegetation regions of the Sahara composed principally of mustards (Cruciferae) and grasses (Gramineae).

achene [BOT] A small, dry, indehiscent fruit formed from a simple ovary bearing a single seed.

Acheulean [ARCHEO] Lower Paleolithic archeological time, characterized by biface tools having cutting edges all around.

achievement age [PSYCH] Accomplishment, or actual level of scholastic performance, expressed as equivalent to the age in years of the average child showing similar attainments.

achievement quotient [PSYCH] The ratio, usually multiplied by 100, between the achievement age, or actual scholastic level, and the mental age.

achilary [BOT] In flowers, having the lip (labellum) undeveloped or lacking.

Achilles [ASTRON] An asteroid; member of the group known as the Trojan planets.

Achilles jerk [PHYSIO] A reflex action seen as plantar flexion in response to a blow to the Achilles tendon. Also known as Achilles tendon reflex.

Achilles tendon [ANAT] The tendon formed by union of the tendons of the calf muscles, the soleus and gastrocnemius, and inserted into the heel bone.

Achilles tendon reflex See Achilles jerk.

achlamydeous [BOT] Lacking a perianth.

achlorhydria [MED] Absence of hydrochloric acid in the stomach.

achluophobia [PSYCH] Abnormal fear of darkness.

acholia [MED] Suppression or absence of bile secretion into the small intestine.

achondrite [GEOL] A stony meteorite that contains no chondrules.

achondroplasia [MED] A hereditary deforming disease of the skeletal system, inherited in man as an autosomal dominant trait and characterized by insufficient growth of the long bones, resulting in reduced length. Also known as chondrodystrophy fetalis.

achondroplastic dwarf [MED] A human with short legs and arms due to achondroplasia.

achordate [VERT ZOO] Lacking a notochord.

achrocythemia [MED] An anemia characterized by pale erythrocytes due to hemoglobin deficiency.

achroglobin [BIOCHEM] A colorless respiratory pigment present in some mollusks and urochordates.

Achromatiaceae [MICROBIO] A family of large, spherical to ovoid bacteria in the order Beggiatoales.

achromatic [OPTICS] Capable of transmitting light without decomposing it into its constituent colors.

achromatic lens [OPTICS] A combination of two or more lenses having a focal length that is the same for two quite different wavelengths, thereby removing a major portion of chromatic aberration. Also known as achromat.

achromatic prism [OPTICS] A prism consisting of two or more prisms with different refractive indices combined so that light passing through the device is deviated but not dispersed.

achromatin [CYTOL] The portion of the cell nucleus which does not stain easily with basic dyes.

achromatophilia [BIOL] The property of not staining readily.

achromic [BIOL] Colorless; lacking normal pigmentation.

Achromobacter [MICROBIO] A genus of motile and nonmotile, gram-negative, rod-shaped bacteria in the family Achromobacteraceae.

Achromobacteraceae [MICROBIO] A family of true bacteria, order Eubacteriales, characterized by aerobic metabolism.

Achromycin [MICROBIO] Trade name for the antibiotic tetracycline.

achylia [MED] Absence of chyle.

achylia gastrica [MED] Lack of secretion of hydrochloric acid and proteolytic enzymes by the stomach.

ACI See acoustic comfort index.

acicular [SCI TECH] Needlelike; slender and pointed.

acicular ice [HYD] Fresh-water ice composed of many long

crystals and layered hollow tubes of varying shape containing air bubbles. Also known as fibrous ice; satin ice.

acicular powder [MET] A metal powder whose grains are needle-shaped.

aciculiglossa [ECOL] Narrow-sclerophyll or coniferous vegetation that is mostly subalpine, subarctic, or continental.

acid [CHEM] 1. Any of a class of chemical compounds whose aqueous solutions turn blue litmus paper red, react with and dissolve certain metals to form salts, and react with bases to form salts. 2. A compound capable of transferring a hydrogen ion in solution. 3. By extension of the term, a substance that ionizes in solution to yield the positive ion of the solvent. 4. A molecule or ion that combines with another molecule or ion by forming a covalent bond with two electrons from the other species.

π -acid [ORG CHEM] An acid that readily forms stable complexes with aromatic systems.

acid acceptor [ORG CHEM] A stabilizer compound added to plastic and resin polymers to combine with trace amounts of acids formed by decomposition of the polymers.

acid alcohol [ORG CHEM] A compound containing both a carboxyl group ($-\text{COOH}$) and an alcohol group ($-\text{CH}_2\text{OH}$, $-\text{CHOH}$, or 6 COH).

acid ammonium tartrate See ammonium bitartrate.

acid anhydride [CHEM] An acid with one or more molecules of water removed; for example, SO_3 is the acid anhydride of H_2SO_4 , sulfuric acid.

acid-base balance [PHYSIO] Physiologically maintained equilibrium of acids and bases in the body.

acid-base catalysis [CHEM] The increase in speed of certain chemical reactions due to the presence of acids and bases.

acid-base equilibrium [CHEM] The condition when acidic and basic ions in a solution exactly neutralize each other; that is, the pH is 7.

acid-base indicator [ANALY CHEM] A substance that reveals, through characteristic color changes, the degree of acidity or basicity of solutions.

acid-base pair [CHEM] A concept in the Brønsted theory of acids and bases; the pair consists of the source of the proton (acid) and the base generated by the transfer of the proton.

acid-base titration [ANALY CHEM] A titration in which an acid of known concentration is added to a solution of base of unknown concentration, or the converse.

acid blowcase See blowcase.

acid bottom and lining [MET] A melting furnace's inner bottom and lining composed of materials that at operating temperatures of the furnace react with the melt and slag to give an acid reaction; examples of materials are sand, siliceous rock, and silica brick.

acid brittleness [MET] Low ductility of a metal due to its absorption of hydrogen gas, which may occur during an electrolytic process or during cleaning. Also known as hydrogen embrittlement.

acid bronze [MET] A copper-tin alloy containing lead and nickel; used in pumping equipment.

acid calcium phosphate See calcium phosphate.

acid cell [HISTOL] A parietal cell of the stomach. [PHYS CHEM] An electrolytic cell whose electrolyte is an acid.

acid chloride [ORG CHEM] A compound containing the radical $-\text{COCl}$; an example is benzoyl chloride.

acid clay [GEOL] A type of clay that gives off hydrogen ions when it dissolves in water.

acid dilution [PETRO ENG] Dilution of concentrated hydrochloric acid with water prior to oil-well acidizing.

acid dye [ORG CHEM] Any of a group of sodium salts of sulfonic and carboxylic acids used to dye natural and synthetic fibers, leather, and paper.

acid egg See blowcase.

acid electrolyte [INORG CHEM] A compound, such as sulfuric acid, that dissociates into ions when dissolved, forming an acidic solution that conducts an electric current.

acidemia [MED] A condition in which the pH of the blood falls below normal.

acid-fast bacteria [MICROBIO] Bacteria, especially mycobacteria, that stain with basic dyes and fluorochromes and resist decoloration by acid solutions.

acid-fast stain [MICROBIO] A differential stain used in iden-

typifying species of *Mycobacterium* and one species of *Nocardia*.

acid gases [CHEM ENG] The hydrogen sulfide and carbon dioxide found in natural and refinery gases which, when combined with moisture, form corrosive acids; known as sour gases when hydrogen sulfide and mercaptans are present.

acid halide [ORG CHEM] A compound of the type $RCOX$, where R is an alkyl or aryl radical and X is a halogen.

acid heat test [ANALY CHEM] The determination of degree of unsaturation of organic compounds by reacting with sulfuric acid and measuring the heat of reaction.

acidic [CHEM] 1. Pertaining to an acid or to its properties. 2. Forming an acid during a chemical process.

acidic group [ORG CHEM] The radical $COOH$, present in organic acids.

acidic oxide [INORG CHEM] An oxygen compound of a non-metal, for example, SO_2 or P_2O_5 , which yields an oxyacid with water.

acidic rock [PETR] Igneous rock containing more than 66% SiO_2 , silicic.

acidic titrant [ANALY CHEM] An acid solution of known concentration used to determine the basicity of another solution by titration.

acidification [CHEM] Addition of an acid to a solution until the pH falls below 7.

acidimeter [ANALY CHEM] An apparatus or a standard solution used to determine the amount of acid in a sample.

acidimetry [ANALY CHEM] The titration of an acid with a standard solution of base.

acidity [CHEM] The state of being acid.

acidity coefficient [GEOCHEM] The ratio of the oxygen content of the bases in a rock to the oxygen content in the silica. Also known as oxygen ratio.

acidizing [PETRO ENG] Well-stimulation method to increase oil production by injecting hydrochloric acid into the oil-bearing formation; the acid dissolves rock to enlarge the porous passages through which the oil must flow.

acid jetting [PETRO ENG] The jetting, from a device lowered through oil-well tubing, of an acid spray onto bottom-hole rock to clean away mud and scale interfering with oil flow.

acid magnesium citrate See dibasic magnesium citrate.

acid manganous phosphate [INORG CHEM] $MnHPO_4 \cdot 3H_2O$ Acid-soluble pink powder. Also known as manganese hydrogen phosphate; secondary manganous phosphate.

acid mine drainage [MIN ENG] Drainage from bituminous coal mines containing a large concentration of acidic sulfates, especially ferrous sulfate.

acid mine water [MIN ENG] Mine water with free sulfuric acid, due to the weathering of iron pyrites.

acid number [CHEM] See acid value. [ENG] A number derived from a standard test indicating the acid or base composition of lubricating oils; it in no way indicates the corrosive attack of the used oil in service. Also known as corrosion number.

acidolysis [ORG CHEM] A chemical reaction involving the decomposition of a molecule, with the addition of the elements of an acid to the molecule; the reaction is comparable to hydrolysis or alcoholysis, in which water or alcohol, respectively, is used in place of the acid. Also known as acyl exchange.

acid open-hearth process [MET] A steelmaking process employing an open-hearth furnace lined with siliceous-type refractories.

acidophil [BIOL] 1. Any substance, tissue, or organism having an affinity for acid stains. 2. An organism having a preference for an acid environment. [HISTOL] 1. An alpha cell of the adenohypophysis. 2. See eosinophil.

acidophilla See eosinophilia.

acidophilic erythroblast See normoblast.

acidosis [MED] A condition of decreased body alkalinity, usually due to an excess of acid metabolites.

acidotrophic [BIOL] Having an acid nutrient requirement.

acid phosphatase [BIOCHEM] Any nonspecific phosphatase requiring an acid medium for optimum activity.

acid phosphate [INORG CHEM] A mono- or dihydric phosphate; for example, M_2HPO_4 or MH_2PO_4 , where M represents a metal atom.

acid phthalic anhydride See phthalic anhydride.

ACINOUS GLAND



An example of a typical compound type of acinous gland.

acid pickle [MATER] Industrial waste water that is the spent liquor from a chemical process used to clean metal surfaces.

acid potassium sulfate See potassium bisulfate.

acid process [MET] A melting process carried out in a furnace lined with acidic materials which combine readily with the oxides in the ore.

acid-proof coating [MATER] Material in liquid form suitable for application, by spraying, to the wall of projectile or bomb cavities to protect the metal from attack by explosives or other shell fillers.

acid reaction [CHEM] A chemical reaction produced by an acid.

acid refractory [MATER] A refractory that is composed principally of silica and reacts at high temperatures with bases such as lime, alkalis, and basic oxides.

acid-resistant [MATER] Able to withstand chemical reaction with or degeneration by acids.

acid salt [CHEM] A compound derived from an acid and base in which only a part of the hydrogen is replaced by a basic radical; for example, the acid sulfate $NaHSO_4$.

acid slag [MET] Furnace slag in which there is more silica and silicates than lime and magnesia.

acid sludge [CHEM ENG] The residue left after treating petroleum oil with sulfuric acid for the removal of impurities.

acid sodium tartrate See sodium bitartrate.

acid soil [GEOL] A soil with pH less than 7; results from presence of exchangeable hydrogen and aluminum ions.

acid solution [CHEM] An aqueous solution containing more hydrogen ions than hydroxyl ions.

acid soot [ENG] Carbon particles that have absorbed acid fumes as a by-product of combustion; hydrochloric acid absorbed on carbon particulates is frequently the cause of metal corrosion in incineration.

acid steel [MET] Steel produced in a melting furnace employing siliceous-type refractories.

acid tartrate See bitartrate.

acid tide [MED] A period of increased acidity of urine and body fluids.

acid treating [CHEM ENG] A refining process in which unfinished petroleum products, such as gasoline, kerosene, and diesel oil, are contacted with sulfuric acid to improve their color, odor, and other properties.

acidulant [FOOD ENG] One of a class of chemicals added to food to increase either tartness or acidity, such as malic or citric acids for tartness and phosphoric acid for acidity.

acidulous water [HYD] Mineral water either with dissolved carbonic acid or dissolved sulfur compounds such as sulfates.

acid value [CHEM] The acidity of a solution expressed in terms of normality. Also known as acid number.

acid wash [MATER] A solution of phosphoric acid applied to steel parts that removes and neutralizes the alkaline solutions used for grease removal after machining; also leaves a metallic phosphate coating which accepts paint well and, of itself, provides a degree of protection against rust.

acid water pollution [ENG] Industrial waste waters that are acidic; usually appear in effluent from the manufacture of chemicals, batteries, artificial and natural fiber, fermentation processes (beer), and mining.

aceleration [MET] Electrolytic coating of a thin metal plate with iron; the iron hardens to steel-like strength.

acinar [ANAT] Pertaining to an acinus.

acinar cell [ANAT] Any of the cells lining an acinous gland.

Acinetobacter [MICROBIO] A term suggested as the genus name for some species of *Achromobacter*.

aciniiform [ZOO] Shaped like a berry or a bunch of grapes.

acinotubular gland See tubuloalveolar gland.

acinous [BIOL] Of or pertaining to acini.

acinous gland [ANAT] A multicellular gland with sac-shaped secreting units. Also known as alveolar gland.

acinus [ANAT] The small terminal sac of an acinous gland, lined with secreting cells. [BOT] An individual drupelet of a multiple fruit.

Acipenser [VERT ZOO] A genus of actinopterygian fishes in the sturgeon family, Acipenseridae.

Acipenseridae [VERT ZOO] The sturgeons, a family of actinopterygian fishes in the order Acipenseriformes.

Acipenseriformes [VERT ZOO] An order of the subclass Acti-

nopterygii represented by the sturgeons and paddlefishes.
Ackerman linkage See Ackerman steering gear.

Ackerman steering gear [MECH ENG] Differential gear or linkage that turns the two steered road wheels of a self-propelled vehicle so that all wheels roll on circles with a common center. Also known as Ackerman linkage.

aclastic [OPTICS] Having the property of not refracting light.

acclinal [GEOL] Without dip; horizontal.

acclinic [GEOPHYS] Referring to a situation where a freely suspended magnetic needle remains in a horizontal position.

acclinic line See magnetic equator.

acm See abohm centimeter.

Acmaeidae [INV ZOO] A family of gastropod mollusks in the order Archaeogastropoda; includes many limpets.

acme [PALEON] The time of largest abundance or variety of a fossil taxon; the taxon may be either general or local.

acme harrow [AGR] A type of harrow having a transverse horizontal frame with stiff curved blades. Also known as blade harrow; curved knife-tooth harrow; pulverizer.

acme screw thread [DES ENG] A standard thread having a profile angle of 29° and a flat crest; used on power screws in such devices as automobile jacks, presses, and lead screws on lathes. Also known as acme thread.

acme thread See acme screw thread.

acmite [MINERAL] $\text{NaFeSi}_2\text{O}_6$ A brown or green silicate mineral of the pyroxene group, often in long, pointed prismatic crystals; hardness is 6-6.5 on Mohs scale, and specific gravity is 3.50-3.55; found in igneous and metamorphic rocks.

acne [MED] A pleomorphic, inflammatory skin disease involving sebaceous follicles of the face, back, and chest and characterized by blackheads, whiteheads, papules, pustules, and nodules.

acne rosacea [MED] A form of acne occurring in older persons and seen as reddened inflamed areas on the forehead, nose, and cheeks.

Acnidosporidia [INV ZOO] An equivalent name for the Haplosporea.

acnode See isolated point.

Acoela [INV ZOO] An order of marine flatworms in the class Turbellaria characterized by the lack of a digestive tract and coelomic cavity.

Acoelea [INV ZOO] An order of gastropod mollusks in the subclass Opisthobranchia; includes many sea slugs.

Acoelomata [INV ZOO] A subdivision of the animal kingdom; individuals are characterized by lack of a true body cavity.

acoelous [ZOO] 1. Lacking a true body cavity or coelom. 2.

Lacking a true stomach or digestive tract.

acolate [BOT] Of pollen grains, lacking furrows or grooves.

Aconchulinida [INV ZOO] An order of protozoans in the subclass Filosia comprising a small group of naked amebas having filopodia.

aconitase [BIOCHEM] An enzyme involved in the Krebs cycle in muscles that catalyzes the breakdown of citric acid to *cis*-aconitic and isocitric acids.

aconite [BOT] Any plant of the genus *Aconitum*. Also known as friar's cowl; monkshood; mousebane; wolfsbane. [PHARM] A toxic drug obtained from the dried tuberous root of *Aconitum napellus*; the principal alkaloid is aconitine.

aconitic acid [ORG CHEM] $\text{C}_6\text{H}_6\text{O}_2$ A white, crystalline organic acid found in sugarcane and sugarbeet; obtained during manufacture of sugar.

aconitine [PHARM] $\text{C}_{34}\text{H}_{47}\text{O}_{11}\text{N}$ A poisonous, white, crystalline alkaloid compound obtained from aconites such as monkshood (*Aconitum napellus*).

acorn [BOT] The nut of the oak tree, usually surrounded at the base by a woody involucre.

acorn barnacle [INV ZOO] Any of the sessile barnacles that are enclosed in conical, flat-bottomed shells and attach to ships and near-shore rocks and piles.

acorn disease [PL PATH] A virus disease of citrus plants characterized by malformation of the fruit, which is somewhat acorn-shaped.

acorn tube [ELECTR] An ultra-high-frequency electron tube resembling an acorn in shape and size.

acorn worm [INV ZOO] Any member of the class Enteropneusta, free-living animals that usually burrow in sand or mud. Also known as tongue worm.

acotyledon [BOT] A plant without cotyledons.

acouchi [VERT ZOO] A hystricomorph rodent represented by two species in the family Dasyproctidae; believed to be a dwarf variety of the agouti.

acoustic [ACOUS] Relating to, containing, producing, arising from, actuated by, or carrying sound.

acoustic absorption See sound absorption.

acoustic absorption coefficient See sound absorption coefficient.

acoustic absorptivity See sound absorption coefficient.

acoustical [ACOUS] Having a characteristic concerning sound, of an object or quantity that in and of itself does not have properties associated with sound, such as a device, measurement, or symbol.

acoustical Doppler effect [ACOUS] The change in pitch of a sound observed when there is relative motion between source and observer.

acoustical material [MATER] Any natural or synthetic material that absorbs sound; acoustical tile is an example.

acoustical scintillation [COMMUN] Irregular fluctuation in the received intensity of sounds propagated through the atmosphere from a source of uniform output; produced by nonhomogeneous structure of the atmosphere along the path of the sound.

acoustical stiffness [ACOUS] The acoustic reactance associated with the potential energy of a medium multiplied by 2π times the sound frequency.

acoustical treatment [CIV ENG] That part of building planning that is designed to provide a proper acoustical environment; includes the use of acoustical material.

acoustic amplifier [ELECTR] A device that amplifies mechanical vibrations directly at audio and ultrasonic frequencies.

acoustic array [ENG ACOUS] A sound-transmitting or -receiving system whose elements are arranged to give desired directional characteristics.

acoustic bearing See sonic bearing.

acoustic branch [SOLID STATE] One of the parts of the dispersion relation, frequency as a function of wave number, for crystal lattice vibrations, representing vibration at low (acoustic) frequencies.

acoustic bridge [ELECTR] A device, based on the principle of the electrical Wheatstone bridge, used for analysis of deafness.

acoustic capacitance [ACOUS] A measure of volume displacement in a sound medium, per dyne per square centimeter.

acoustic capacitance unit [ACOUS] The centimeter-to-the-fifth-power per dyne.

acoustic center [ENG ACOUS] The center of the spherical sound waves radiating outward from an acoustic transducer.

acoustic clarifier [ENG ACOUS] System of cones loosely attached to the baffle of a loudspeaker and designed to vibrate and absorb energy during sudden loud sounds to suppress these sounds.

acoustic comfort index [ACOUS] An arbitrarily designed scale to indicate the noise inside the passenger cabin of an aircraft; on this scale +100 represents ideal conditions or zero noise, 0 represents barely tolerable conditions, and -100 represents intolerable conditions. Abbreviated ACI.

acoustic compliance [ACOUS] The reciprocal of acoustic stiffness.

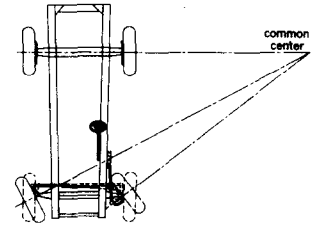
acoustic delay [ENG ACOUS] A delay which is deliberately introduced in sound reproduction by having the sound travel a certain distance along a pipe before conversion into electric signals.

acoustic delay line [ELECTR] A device in which acoustic signals are propagated in a medium to make use of the sonic propagation time to obtain a time delay for the signals. Also known as sonic delay line.

acoustic detection [ENG] Determination of the profile of a geologic formation, an ocean layer, or some object in the ocean by measuring the reflection of sound waves off the object.

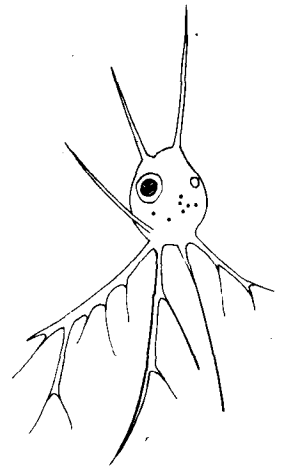
acoustic detector [ELECTR] The stage in a receiver at which demodulation of a modulated radio wave into its audio component takes place.

ACKERMAN STEERING GEAR



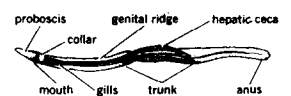
All wheels turn about a common center.

ACONCHULINIDA



A drawing of *Penardia cometa* showing the filamentous pseudopodia (filopodia). (After De Saedeleer)

ACORN WORM



A drawing of the acorn worm, *Saccoglossus*, showing anatomical features. (From T. I. Storer and R. L. Usinger, *General Zoology*, 4th ed., McGraw-Hill, 1965)

acoustic dispersion [ACOUS] A complex sound wave's separation into its frequency components as it passes through a medium; usually measured by the rate of change of velocity with frequency.

acoustic energy See sound energy.

acoustic fatigue [MECH] The tendency of a material, such as a metal, to lose strength after acoustic stress.

acoustic feedback [ENG ACOUS] The reverberation of sound waves from a loudspeaker to a preceding part of an audio system, such as to the microphone, in such a manner as to reinforce, and distort, the original input. Also known as acoustic regeneration.

acoustic filter See filter.

acoustic fix See sonic fix.

acoustic generator [ENG ACOUS] A transducer which converts electrical, mechanical, or other forms of energy into sound.

acoustic homing [NAV] The following of a path of acoustic energy to or toward its source or point of reflection.

acoustic horn See horn.

acoustic image [ACOUS] The geometric space figure that is made up of the acoustic foci of an acoustic lens, mirror, or other acoustic optical system and is the acoustic counterpart of an extended source of sound. Also known as image.

acoustic impedance [ACOUS] The complex ratio of the sound pressure on a given surface to the sound flux through that surface, expressed in acoustic ohms.

acoustic inertance See acoustic mass.

acoustic insulation [MATER] A material used to diminish sound energy that passes through it or strikes its surface.

acoustic interferometer [ACOUS] A device for measuring the velocity and attenuation of sound waves in a gas or liquid by an interference method.

acoustic jamming [ENG ACOUS] The deliberate radiation or reradiation of mechanical or electroacoustic signals with the objectives of obliterating or obscuring signals which the enemy is attempting to receive and of deterring enemy weapons systems.

acoustic labyrinth [ENG ACOUS] Special baffle arrangement used with a loudspeaker to prevent cavity resonance and to reinforce bass response.

acoustic lens [MATER] Selected materials shaped to refract sound waves in accordance with the principles of geometrical optics, as is done for light. Also known as lens.

acoustic line [ENG ACOUS] The acoustic equivalent of an electrical transmission line, involving baffles, labyrinths, or resonators placed at the rear of a loudspeaker and arranged to help reproduce the very low audio frequencies.

acoustic line of position See sonic line of position.

acoustic Mach meter [AERO ENG] A device which registers data on sound propagation for the calculation of Mach number.

acoustic mass [ACOUS] The quantity which, after multiplication by twice the frequency, results in the acoustic reactance associated with the kinetic energy of the sound medium. Also known as acoustic inertance.

acoustic mass unit [ACOUS] Usually, the gram per centimeter-to-the-fourth-power.

acoustic measurement [ACOUS] The process of quantitatively determining one or more properties of sound.

acoustic memory [ADP] A computer memory that uses an acoustic delay line, in which a train of pulses travels through a medium such as mercury or quartz.

acoustic mine [ORD] A naval mine which is activated by acoustic means.

acoustic mode [SOLID STATE] The type of crystal lattice vibrations which for long wavelengths act like an acoustic wave in a continuous medium, but which for shorter wavelengths approach the Debye frequency, showing a dispersive decrease in phase velocity.

acoustic navigation See sonic navigation.

acoustic nerve See auditory nerve.

acoustic noise [ACOUS] Noise in the acoustic spectrum; usually measured in decibels.

acoustic ohm [ACOUS] The unit of acoustic impedance. Also known as acoustic reactance unit; acoustic resistance unit.

acousticophobia [PSYCH] Abnormal fear of sounds.

acoustic phonon [SOLID STATE] A quantum of excitation of an acoustic mode of vibration.

acoustic plaster [MATER] Plaster having good acoustic absorbing properties; it contains metal which, upon contact with water, evolves gas to aerate the mass.

acoustic power See sound power.

acoustic radiation [ACOUS] Infrasonic, sonic, or ultrasonic waves propagating through a solid, liquid, or gaseous medium.

acoustic radiation pressure [ACOUS] A unidirectional, steady-state pressure exerted upon a surface exposed to a sound wave.

acoustic radiator [ENG ACOUS] A vibrating surface that produces sound waves, such as a loudspeaker cone or a head-phone diaphragm.

acoustic radiometer [ENG] An instrument for measuring sound intensity by determining the unidirectional steady-state pressure caused by the reflection or absorption of a sound wave at a boundary.

acoustic ratio [ENG ACOUS] The ratio of the intensity of sound radiated directly from a source to the intensity of sound reverberating from the walls of an enclosure, at a given point in the enclosure.

acoustic reactance [ACOUS] The imaginary component of the acoustic impedance.

acoustic reactance unit See acoustic ohm.

acoustic receiver [ELECTR] The complete equipment required for receiving modulated radio waves and converting them into sound.

acoustic reciprocity theorem [ACOUS] A theorem which states that in the acoustic field due to a sound source at point A, the sound pressure received at any other point B is the same as that which would be produced at A if the source were placed at B, and that this can be generalized for multiple sources and receivers.

acoustic reflection coefficient See acoustic reflectivity.

acoustic reflectivity [ACOUS] Ratio of the rate of flow of sound energy reflected from a surface, on the side of incidence, to the incident rate of flow. Also known as acoustic reflection coefficient; sound reflection coefficient.

acoustic reflex [PHYSIO] Brief, involuntary closure of the eyes due to stimulation of the acoustic nerve by a sudden sound.

acoustic reflex enclosure [ENG ACOUS] A loudspeaker cabinet designed with a port to allow a low-frequency contribution from the rear of the speaker cone to be radiated forward.

acoustic refraction [ACOUS] Variation of the direction of sound transmission due to spatial variation of the wave velocity in the medium.

acoustic regeneration See acoustic feedback.

acoustic resistance [ACOUS] The real component of the acoustic impedance.

acoustic resistance unit See acoustic ohm.

acoustic resonance [ACOUS] A phenomenon exhibited by an acoustic system, such as an organ pipe or Helmholtz resonator, in which the response of the system to sound waves becomes very large when the frequency of the sound approaches a natural vibration frequency of the air in the system.

acoustic resonator [ACOUS] An enclosure that produces sound-wave resonance at a particular frequency.

acoustics [PHYS] 1. The science of the production, transmission, and effects of sound. 2. The characteristics of a room that determine the qualities of sound in it relevant to hearing.

acoustic scattering [ACOUS] The irregular reflection, refraction, and diffraction of sound in many directions.

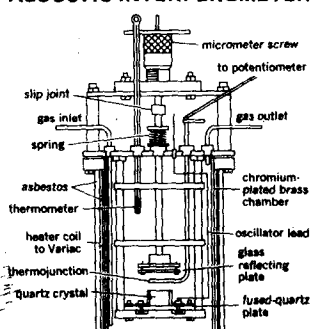
acoustic seal [ENG ACOUS] A joint between two parts to provide acoustical coupling with low losses of energy, such as between an earphone and the human ear.

acoustic shielding [ACOUS] A sound barrier that prevents the transmission of acoustic energy.

acoustic signature [ENG] In acoustic detection, the profile characteristic of a particular object or class of objects, such as a school of fish or a specific ocean-bottom formation.

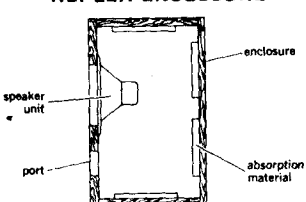
acoustic spectrometer [ENG ACOUS] An instrument that measures the intensities of the various frequency components

ACOUSTIC INTERFEROMETER



The interferometric chamber in which measurements of change in velocity and attenuation of sound waves are made.

ACOUSTIC REFLEX ENCLOSURE



Sectional view of one type of reflex enclosure; large port area near diaphragm obtains maximum aid from port radiation; phase shift of backside radiation is obtained by choice of enclosure volume and port mass. (From K. Henney, ed., *Radio Engineering Handbook*, 5th ed., McGraw-Hill, 1959)