McGRAW-HILL DICTIONARY OF SCIENTIFIC AND TECHNICAL TERMS

Sixth Edition

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On the cover: Representation of a fullerene molecule with a noble gas atom trapped inside. At the Permian-Triassic sedimentary boundary the noble gases helium and argon have been found trapped inside fullerenes. They exhibit isotope ratios quite similar to those found in meterorites, suggesting that a fireball meteorite or asteroid exploded when it hit the Earth, causing major changes in the environment. *(Image copyright © Dr. Luann Becker. Reproduced with permission.)*

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private branch exchange [COMMUN] A telephone exchange serving a single organization, having a switchboard and associated equipment, usually located on the customer's premises; provides for switching calls between any two extensions served by the exchange or between any extension and the national telephone system via a trunk to a central office. Abbreviated PBX. { 'prī·vət 'branch iks,chānj }

private branch exchange access line [ELEC] Circuit that connects a main private branch exchange (PBX) to a switching center. { 'prī·vət 'branch iks,chānj 'ak,ses ,līn }

private data [COMPUT SCI] Data that are open to a single user only. { 'prī·vət 'dad·ə }

private exchange [COMMUN] Telephone exchange serving a single organization and having no means for connecting to a public telephone system. { 'prī·vət iks'chānj }

private library [COMPUT SCI] An organized collection of programs and other software that is the property of a single user of a computer system and is not generally available to other users. { 'prī·vət 'lī,brer·ē }

private line [COMMUN] A line, channel, or service reserved solely for one user. { 'prī·vət 'līn }

private line arrangement [COMPUT SCI] The structure of a computer system in which each input/output device has a set of lines leading to the central processing unit for the device's own private use. Also known as radial selector. { 'prī·vət |līn ə,rānj·mənt }

private line service [COMMUN] Service provided by United States common carriers engaged in domestic or international wire, radio, and cable communications for the intercity communications purposes of a customer; this service is provided over integrated communications pathways, including facilities or local channels, which are integrated components of intercity private line services, and station equipment between specified locations for a continuous period or for regularly recurring periods at stated hours. { 'prī·vət |līn ,sər·vəs }

private pack [COMPUT SCI] A disk pack assigned exclusively to one application or one user so that the operating system does not try to allocate space on the device to others. { 'prī·vət 'pak }

private stream [HYD] Any stream which diverts part or all of the drainage of another stream. { 'prī·vət 'strēm }

privileged direction [OPTICS] One of two mutually perpendicular directions for the plane of polarization of a beam of plane-polarized light falling on a plate of anisotropic material such that the light which emerges from the plate is also plane-polarized. { 'priv·ə·lijd də'rek·shən }

privileged instruction [COMPUT SCI] A class of instructions, usually including storage protection setting, interrupt handling, timer control, input/output, and special processor status-setting instructions, that can be executed only when the computer is in a special privileged mode that is generally available to an operating or executive system, but not to user programs. { 'priv·ə·lijd in'strək·shən }

privileged mode See master mode. { 'priv·ə·lijd ,mōd }

PRML technique See partial-response maximum-likelihood technique. { |pē|är|em'el tek,nēk }

proaccelerin [BIOCHEM] A labile procoagulant in normal plasma but deficient in the blood of patients with parahemophilia; essential for rapid conversion of prothrombin to thrombin. Also known as factor V; labile factor. { |prō·ak'sel·ə·rən }

proactive interference [PSYCH] The situation in which old memories inhibit the learning of new memories. { prō,ak·tiv ,in·tər'fir·əns }

proamnion [EMBRYO] The part of the embryonic area at the sides and in front of the head of the developing amniote embryo, which remains without mesoderm for a considerable period. { prō'am·nē,än }

Proanura [PALEON] Triassic forerunners of the Anura. { prō'an·yə·rə }

probabilistic automaton [COMPUT SCI] A device, with a finite number of internal states, which is capable of scanning input words over a finite alphabet and responding by successively changing its internal state in a probabilistic way. Also known as stochastic automaton. { ,präb·ə·bə'lis·tik ò'täm·ə,tän }

probabilistic sampling [STAT] A process in which the laws of probability determine which elements are to be included in a sample. { ,präb·ə'lis·tik 'sam·pliŋ }

probabilistic sequential machine [COMPUT SCI] A probabilistic automaton that has the capability of printing words probabilistically, over a finite output alphabet; also known as stochastic sequential machine. { ,präb·ə·bə'lis·tik si'kwen·chəl mə'shēn }

probability [STAT] The probability of an event is the number of times it occurs to the large number of times that take place; the mathematical model of probability is a positive measure which gives the measure of the space of value 1. { ,präb·ə'bil·əd·ē }

probability amplitude See Schrödinger wave function. { ,präb·ə'bil·əd·ē 'am·plə,tüd }

probability current density [QUANT MECH] A vector whose component normal to a surface gives the probability that a particle will cross a unit area of the surface during a unit time. { ,präb·ə'bil·əd·ē |kə·rənt ,den·səd·ē }

probability density [QUANT MECH] The square of the absolute value of the Schrödinger wave function for a particle at a given point; gives the probability per unit volume of finding the particle at that point. { ,präb·ə'bil·əd·ē ,den·səd·ē }

probability density function [STAT] A real-valued function whose integral over any set gives the probability that a random variable has values in this set. Also known as density function; frequency function. { ,präb·ə'bil·əd·ē ,den·səd·ē fəŋk·shən }

probability deviation See probable error. { ,präb·ə'bil·əd·ē ,dē·vē,ā·shən }

probability distribution See distribution. { ,präb·ə'bil·əd·ē ,dis·trə,byü·shən }

probability forecast [METEOROL] A forecast of the probability of occurrence of one or more of a mutually exclusive set of weather contingencies, as distinguished from a series of categorical statements. { ,präb·ə'bil·əd·ē ,for·kast }

probability mass function [STAT] A function which gives the relative frequency of each possible value of the random variable in an experiment involving a discrete set of outcomes. Abbreviated p.m.f. { ,präb·ə'bil·əd·ē |mas ,fəŋk·shən }

probability measure [MATH] The measure on a probability space. { ,präb·ə'bil·əd·ē ,mezh·ər }

probability paper [STAT] Graph paper with one axis specially ruled to transform the distribution function of a specified function to a straight line when it is plotted against the variable as the abscissa. { ,präb·ə'bil·əd·ē ,pā·pər }

probability ratio test [STAT] Testing a simple hypothesis against a simple alternative by using the ratio of the probability of each simple event under the alternative to the probability of the event under the hypothesis. { ,präb·ə'bil·əd·ē 'rā·shō ,test }

probability sampling [STAT] A method of sampling from a finite population where the probability of each set of units being selected is known. { ,präb·ə'bil·əd·ē ,sam·pliŋ }

probability space [MATH] A measure space such that the measure of the entire space equals 1. { ,präb·ə'bil·əd·ē ,spās }

probability theory [MATH] The study of the mathematical structures and constructions used to analyze the probability of a given set of events from a family of outcomes. { ,präb·ə'bil·əd·ē ,thē·ə·rē }

probable [ORD] **1.** An instance in which a hostile aircraft is probably destroyed. **2.** The hostile aircraft so designated. { 'präb·ə·bəl }

probable error [STAT] The error that is exceeded by a variable with a probability of 1/2. Also known as probability deviation. { 'präb·ə·bəl 'er·ər }

probable maximum precipitation [METEOROL] The theoretically greatest depth of precipitation for a given duration that is physically possible over a particular drainage area at a certain time of year; in practice, this is derived over flat terrain by storm transposition and moisture adjustment to observed storm patterns. { 'präb·ə·bəl 'mak·sə·məm pri·sip·ə'tā·shən }

probable ore [MIN ENG] **1.** A mineral deposit adjacent to a developed ore but not yet proved by development. **2.** Sometimes indicated ore. { 'präb·ə·bəl 'òr }

probable reserves [PETRO ENG] Primary petroleum reserves based on limited evidence, but not proved by a commercial oil-production rate. { 'präb·ə·bəl ri'zərvz }

proband [GEN] The clinically affected individual through whom a family is found that can be used to study a genetic trait.