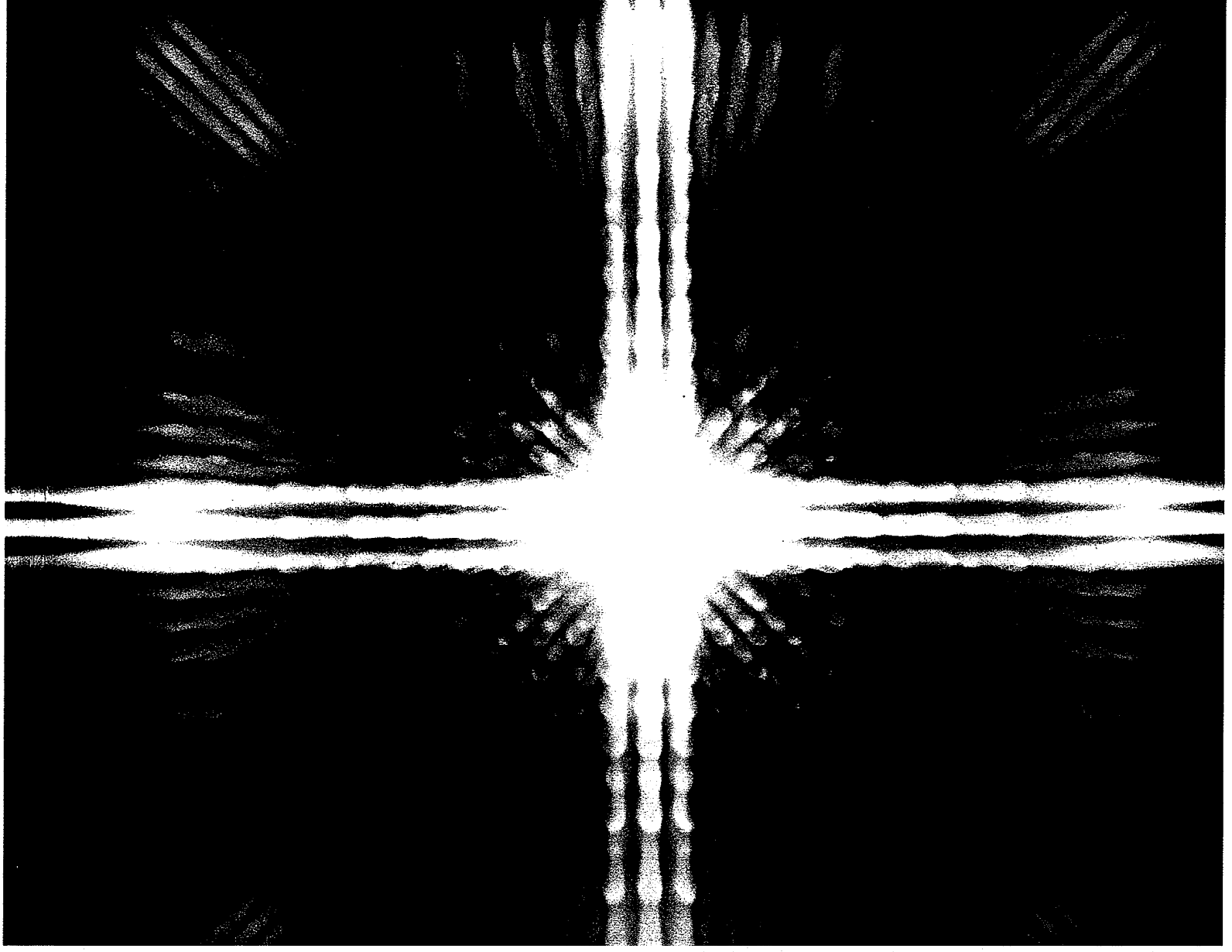
EXHIBIT L

McGraw-Hill Dictionary of Scientific and Technical Terms

Fourth Edition



On the cover: Pattern produced from white light by a computer-generated diffraction plate containing 529 square apertures arranged in a 23 × 23 array. (R. B. Hoover, Marshall Space Flight Center)

On the title pages: Aerial photograph of the Sinai Peninsula made by Gemini spacecraft. (NASA)

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$f(x)$; set $g(x) = \log f(x)$ where $f(x) \neq 0$, then $g'(x) = f'(x)/f(x)$, and if there is some other way to find $g'(x)$, then one also finds $f'(x)$. { 'läg·ə,rith·mik ,dif·ə,ren·chē'ā·shən }

logarithmic diode [ELECTR] A diode that has an accurate semilogarithmic relationship between current and voltage over wide and forward dynamic ranges. { 'läg·ə,rith·mik 'dī,ōd }

logarithmic distribution [STAT] A frequency distribution whose value at any integer $n = 1, 2, \ldots$ is $\lambda^n/(-n) \log (1 - \lambda)$, where λ is fixed. { 'läg·ə,rith·mik ,dis·trə'byü·shən }

logarithmic equation [MATH] An equation which involves a logarithmic function of some variable. { 'läg·ə,rith·mik i'kwā·zhən }

logarithmic fast time constant [ELECTR] Constant false alarm rate scheme which has a logarithmic intermediate-frequency amplifier followed by a fast time constant circuit. { 'läg·ə,rith·mik 'fast ,tīm ,kän·stənt }

logarithmic growth *See* exponential growth. { 'läg·ə,rith·mik 'grōth }

logarithmic multiplier [ELECTR] A multiplier in which each variable is applied to a logarithmic function generator, and the outputs are added together and applied to an exponential function generator, to obtain an output proportional to the product of two inputs. { 'läg·ə,rith·mik 'məl·tə,plī·ər }

logarithmic potential [PHYS] A potential function that is proportional to the logarithm of some coordinate; for example, a straight, electrically charged cylinder of circular cross section and effectively infinite length gives rise to an electrostatic potential that is the sum of a constant and a term proportional to the logarithm of the distance from the cylinder's axis. { 'läg·ə,rith·mik pə'ten·chəl }

logarithmic profile of velocity [FL MECH] The mean velocity parallel to a boundary of a fluid in turbulent motion as a function of distance from the boundary, on the assumption that the shearing stress is independent of distance from the boundary, and the mixing length is proportional either to the distance from the boundary or to the ratio of the first derivative of the profile of velocity itself to the second derivative. { 'läg·ə,rith·mik 'prō,fīl əv və'läs·əd·ē }

logarithmic scale [MATH] A scale in which the distances that numbers are at from a reference point are proportional to their logarithms. { 'läg·ə,rith·mik 'skāl }

logarithmic spiral [MATH] The spiral plane curve whose points in polar coordinates $(r,0)$ satisfy the equation $\log r = a\theta$. Also known as equiangular spiral. { 'läg·ə,rith·mik 'spī·rəl }

logarithmic transformation [STAT] The replacement of a variate y with a new variate $z = \log y$ or $z = \log (y + c)$, where c is a constant; this operation is often performed when the resulting distribution is normal, or if the resulting relationship with another variable is linear. { 'läg·ə,rith·mik ,tranz·fər'mā·shən }

logarithmic velocity profile [METEOROL] The theoretical variation of the mean wind speed with height in the surface boundary layer under certain assumptions. { 'läg·ə,rith·mik və'läs·əd·ē ,prō,fīl }

logbook [COMPUT SCI] A bound volume in which operating data of a computer is noted. [NAV] A book in which all affairs and events of navigational importance of a ship are recorded, such as speed and ship's progress. { 'läg,bůk }

logger [ENG] A recorder that automatically scans measured quantities at specified times and records, or logs, their values on a chart. { 'läg·ər }

loggia [ARCH] A roofed open arcade on the side of a building. { 'lōjē·ə }

logging [ENG] Continuous recording versus depth of some characteristic datum of the formations penetrated by a drill hole; for example, resistivity, spontaneous potential, conductivity, fluid content, radioactivity, or density. [FOR] The cutting and removal of the woody stem portions of forest trees. { 'läg·iŋ }

logic [ELECTR] **1.** The basic principles and applications of truth tables, interconnections of on/off circuit elements, and other factors involved in mathematical computation in a computer. **2.** General term for the various types of gates, flip-flops, and other on/off circuits used to perform problem-solving functions in a digital computer. { 'läj·ik }

logical addition [MATH] The additive binary operation of a Boolean algebra. { 'läj·ə·kəl ə'dish·ən }

logical comparison [COMPUT SCI] The operation of comparing two items in a computer and producing a one output if they are equal or alike, and a zero output if not alike. { 'läj·ə·kəl kəm'par·ə·sən }

logical connectives [MATH] Symbols which link mathematical statements; these symbols represent the terms "and," "or," "implication," and "negation." { 'läj·ə·kəl kə'nek·tivz }

logical construction [COMPUT SCI] A simple logical property that determines the type of characters which a particular code represents; for example, the first two bits can tell whether a character is numeric or alphabetic. { 'läj·ə·kəl kən'strək·shən }

logical data independence [COMPUT SCI] A data base structured so that changing the logical structure will not affect its accessibility by the program reading it. { 'läj·ə·kəl ,dad·ə ,in·də'pen·dəns }

logical data type [COMPUT SCI] A scalar data type in which a data item can have only one of two values: true or false. Also known as Boolean data type. { 'läj·ə·kəl 'dad·ə ,tīp }

logical decision [COMPUT SCI] The ability to select one of many paths, depending upon intermediate programming data. { 'läj·ə·kəl di'sizh·ən }

logical device table [COMPUT SCI] A table that is used to keep track of information pertaining to an input/output operation on a logical unit, and that contains such information as the symbolic name of the logical unit, the logical device type and the name of the file currently attached to it, the logical input/output request currently pending on the device, and a pointer to the buffers currently associated with the device. { 'läj·ə·kəl di'vīs ,tā·bəl }

logical expression [COMPUT SCI] Two arithmetic expressions connected by a relational operator indicating whether an expression is greater than, equal to, or less than the other, or connected by a logical variable, logical constant (true or false), or logical operator. { 'läj·ə·kəl ik'spresh·ən }

logical file [COMPUT SCI] A file as seen by the program accessing it. { 'läj·ə·kəl 'fīl }

logical flow chart [COMPUT SCI] A detailed graphic solution in terms of the logical operations required to solve a problem. { 'läj·ə·kəl 'flō ,chärt }

logical gate *See* switching gate. { 'läj·ə·kəl 'gāt }

logical instruction [COMPUT SCI] A digital computer instruction which forms a logical combination (on a bit-by-bit basis) of its operands and leaves the result in a known location. { 'läj·ə·kəl in'strək·shən }

logical multiplication [MATH] The multiplicative binary operation of a Boolean algebra. { 'läj·ə·kəl məl·tə·plə'kā·shən }

logical page [COMPUT SCI] A unit of computer storage consisting of a specified number of bytes. { 'läj·ə·kəl 'pāj }

logical record [COMPUT SCI] A group of adjacent, logically related data items. { 'läj·ə·kəl 'rek·ərd }

logical security [COMPUT SCI] Mechanisms internal to a computing system that are used to protect against internal misuse of computing time and unauthorized access to data. { 'läj·ə·kəl sə'kyůr·əd·ē }

logical shift [COMPUT SCI] A shift operation that treats the operand as a set of bits, not as a signed numeric value or character representation. { 'läj·ə·kəl 'shift }

logical sum [COMPUT SCI] A computer addition in which the result is 1 when either one or both input variables is 1, and the result is 0 when the input variables are both 0. { 'läj·ə·kəl 'səm }

logical symbol [COMPUT SCI] A graphical symbol used to represent a logic element. { 'läj·ə·kəl 'sim·bəl }

logical unit [COMPUT SCI] An abstraction of an input/output device in the form of an additional name given to the device in a computer program. { 'läj·ə·kəl 'yü·nət }

logic-arithmetic unit *See* arithmetical unit. { 'läj·ik·ə'rith·mə·tik ,yü·nət }

logic card [ELECTR] A small fiber chassis on which resistors, capacitors, transistors, magnetic cores, and diodes are mounted and interconnected in such a way as to perform some computer function; computers employing this type of construction may be repaired by removing the faulty card and replacing it with a new card. { 'läj·ik ,kärd }

logic circuit [COMPUT SCI] A computer circuit that provides the action of a logic function or logic operation. Also known as logic gate. { 'läj·ik ,sər·kət }

logic design [COMPUT SCI] The design of a computer at the