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On the cover: Photomicrograph of crystals of vitamin  $B_1$ . (Dennis Kunkel, University of Hawaii)

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1234567890 DOW/DOW 99876543

ISBN 0-07-042333-4

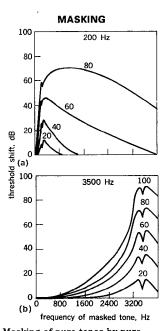
## Library of Congress Cataloging-in-Publication Data

McGraw-Hill dictionary of scientific and technical terms /
Sybil P. Parker, editor in chief..—5th ed.
p. cm.
ISBN 0-07-042333-4
1. Science—Dictionaries. 2. Technology—Dictionaries.
I. Parker, Sybil P.
Q123.M34 1993
503—dc20

### INTERNATIONAL

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Masking of pure tones by pure tones at masking frequencies of (a) 200 hertz, (b) 3500 hertz. The number above each curve is the level in decibels above the threshold of audibility of each masking tone. (From H. Fletcher, Speech and Hearing in Communication, 2d ed., Van Nostrand, 1953)

where the conditional expected value of  $x_{n+1}$  given  $x_1, x_2, ..., x_n$ , equals  $x_n$ . { 'märt-ən,gāl }

Martin's cement [MATER] A gypsum cement made with potassium carbonate instead of alum. { 'märt'ənz si,ment } martite [MINERAL] Hematite occurring in iron-black octahedral crystals pseudomorphous after magnetite. { 'mär,tīt }

martonite [MATER] A poison gas composed of 20% chloroacetone and 80% bromoacetone; acts as a powerful lacrimator. { 'mart·on,īt }

Marvin sunshine recorder [ENG] A sunshine recorder in which the time scale is supplied by a chronograph, and consisting of two bulbs (one of which is blackened) that communicate through a glass tube of small diameter, which is partially filled with mercury and contains two electrical contacts; when the instrument is exposed to sunshine, the air in the blackened bulb is warmed more than that in the clear bulb; the warmed air expands and forces the mercury through the connecting tube to a point where the electrical contacts are shorted by the mercury; this completes the electrical circuit to the pen on the chronograph. { 'märven 'sən,shīn ri,kord-ər }

Marx circuit [ELEC] An electric circuit used in an impulse generator in which capacitors are charged in parallel through charging resistors, and then connected in series and discharged through the test piece by the simultaneous sparkover of spark gaps. { 'märks, sər'kət }

Marx effect [SOLID STATE] The effect wherein the energy of photoelectrons emitted from an illuminated surface is decreased when the surface is simultaneously illuminated by light of lower frequency than that causing the emission. { 'märks i,fekt } mA·s See milliampere-second.

**mascagnite** [MINERAL] (NH<sub>4</sub>)<sub>2</sub>SO<sub>4</sub> A yellowish-gray mineral found in guano, near burning coal beds, or as lava incrustation; specific gravity is 1.77; hardness is 2–2.5 on Mohs scale.  $\{\text{ma'skan_1y\bar{1}t}\}\$ 

mascaret See bore. { |mas·kə|ret }

Mascheroni's constant See Euler's constant. { ,mäsk-əˈrōˌnēz 'kän stənt }

mascon [GEOL] A large, high-density mass concentration below a ringed mare on the surface of the moon. { 'mas,kän } masculine [BIOL] Having an appearance or qualities distinctive for a male. { 'mas.kyə.lən }

masculine pelvis [ANAT] A female pelvis similar to the normal male pelvis in having a deeper cavity and more conical shape. Also known as android pelvis. { 'mas-kyə-lən 'pel-vəs } masculine protest [PSYCH] The struggle to dominate, exhibited primarily by women but to some extent also by men, with the desire to escape identification with the feminine role. { 'mas-kyə-lən 'prō, test }

masculinize [PHYSIO] To cause a female or a sexually immature animal to take on male secondary sex characteristics. { 'mas-kyo-lə,nīz }

masculinoma [MED] Adrenocorticoid adenoma of the ovary. { ,mas·kyə·lə'nō·mə }

maser [PHYS] A device for coherent amplification or generation of electromagnetic waves in which an ensemble of atoms or molecules, raised to an unstable energy state, is stimulated by an electromagnetic wave to radiate excess energy at the same frequency and phase as the stimulating wave. Derived from microwave amplification by stimulated emission of radiation. Also known as paramagnetic amplifier. { 'mā·zər }

maser amplifier [ELECTR] A maser which is used to increase the power produced by another maser. { 'mā-zər 'am-plə,fiər } mash [FOOD ENG] 1. Mixture of grain and other ingredients fermented to produce whiskey. 2. Malted barley or other grain mixed with water to prepare wort for brewing operations. { mash }

mash seam weld [MET] A seam weld at a lap joint in which the overall lap thickness is reduced plastically to the approximate thickness of one of the lapped parts. { 'mash 'sēm ,weld } mask [COMPUT SCI] A pattern of characters used to control the retention or elimination of portions of another pattern of characters. Also known as extractor. [DES ENG] A frame used in front of a television picture tube to conceal the rounded edges of the screen. [ELECTR] A thin sheet of metal or other material containing an open pattern, used to shield selected portions of a semiconductor or other surface during a deposition process. [ENG] A protective covering for the face or head in the form of a wire screen, a metal shield, or a respirator. [GRAPHICS] 1. In color separation photography, an intermediate

negative or positive that is used to correct color. 2. In offset lithography, opaque material that protectively covers open or selected areas of a printing plate during the exposure process. [MET] A protective device in thermal spraying against blasting or coating effects which are reflected from the substrate surface. { mask }

maskable interrupt [COMPUT SCI] An interrupt that can be allowed to occur or prevented from occurring by software. { 'mas-kə-bəl 'int-ə,rəpt }

masked messenger ribonucleic acid See maternal messenger ribonucleic acid. { 'maskd 'mes-ən-jer 'rī-bo-nū' klē-ik 'as-əd } mask face [MED] An expressionless face seen in certain degenerative and inflammatory diseases of the basal ganglia and the extrapyramidal system; voluntary movements are near normal while involuntary movements are infrequent. { 'mask ,fās }

masking [ACOUS] The amount by which the threshold of audibility of a sound is raised by the presence of another sound; the unit customarily used is the decibel. Also known as audio masking; aural masking. [COMPUT SCI] 1. Replacing specific characters in one register by corresponding characters in another register. 2. Extracting certain characters from a string of characters. [ELECTR] 1. Using a covering or coating on a semiconductor surface to provide a masked area for selective deposition or etching. 2. A programmed procedure for eliminating radar coverage in areas where such transmissions may be of use to the enemy for navigation purposes, by weakening the beam in appropriate directions or by use of additional transmitters on the same frequency at suitable sites to interfere with homing; also used to suppress the beam in areas where it would interfere with television reception. [ENG] Preventing entrance of a tracer gas into a vessel by covering the leaks. { 'maskin } masking agent See masking reagent. { 'mask-in ,ā-jənt }

masking reagent [ANALY CHEM] A substance that decreases the concentration of a free metal ion or ligand by conversion into an essentially unreactive form, thus preventing undesirable chemical reactions that would interfere with the determination. Also known as masking agent. { 'mask-iŋ rē,ā-jənt }

mask matching [comput sci] In character recognition, a method employed in character property detection in which a correlation or match is attempted between a specimen character and each of a set of masks representing the characters to be recognized. { 'mask machin}

mask register [COMPUT SCI] Filter which determines the parts of a word which are to be tested. { 'mask rej'ə stər }

mask word [COMPUT SCI] A word modifier used in a logical AND operation. { 'mask ,wərd }

masochism [PSYCH] Pleasure derived from experiencing physical or psychological pain. { 'mas ə,kiz-əm }

masonry [CIV ENG] A construction of stone or similar materials such as concrete or brick. { 'mās ən rē }

masonry cement [MATER] A blended cement, made by combining either natural or portland cements with fattening materials such as hydrated lime and, sometimes, with air-entraining mixtures; used in the mortar of brick and block masonry. { 'mās-ən-rē si,ment }

masonry dam [CIV ENG] A dam constructed of stone or concrete blocks set in mortar. { 'mās ən rē ,dam }

masonry drill [DES ENG] A drill tipped with cemented carbide for drilling in concrete or masonry { 'māseanrā dril}

for drilling in concrete or masonry. { 'mās-ən-rē ˌdril } masonry nail [DES ENG] Spiral-fluted nail designed to be

driven into mortar joints in masonry. { 'mās-ən-rē ,nāl } mason's hydrated lime [MATER] Any hydrated lime suitable for use in mortars, base-coat plasters, and concrete. { 'mās-ənz 'hū drād-əd 'līm }

Mason's theorem [CONT SYS] A formula for the overall transmittance of a signal flow graph in terms of transmittances of various paths in the graph. { 'mās·ənz thir-əm }

mass [MECH] A quantitative measure of a body's resistance to being accelerated; equal to the inverse of the ratio of the body's acceleration to the acceleration of a standard mass under otherwise identical conditions. { mas }

mass absorption coefficient [PHYS] The linear absorption coefficient divided by the density of the medium. { 'mas əb'sorp shən kön fish ənt }

mass absorption law [NUCLEO] The law that the absorption of electrons with speeds greater than one-fifth that of light depends only on the mass of absorbing matter in the electron's