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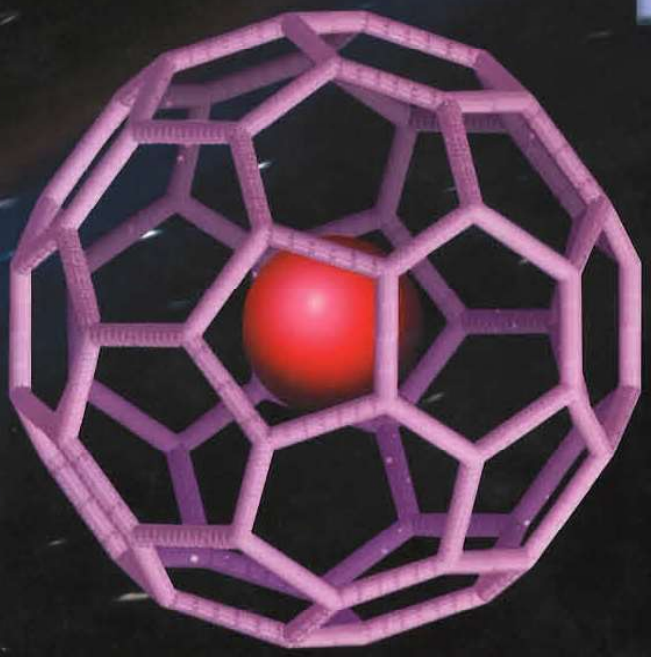
McGraw-Hill Dictionary of SCIENTIFIC and TECHNICAL TERMS



Sixth Edition

TI 1032

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.)***

Over the six editions of the Dictionary, material has been drawn from the following references: G. M. Garrity et al., *Taxonomic Outline of the Procaryotes,* Release 2, Springer-Verlag, January 2002; D. W. Linzey, *Vertebrate Biology,* McGraw-Hill, 2001; J. A. Pechenik, *Biology of the Invertebrates,* 4th ed., McGraw-Hill, 2000; *U.S. Air Force Glossary of Standardized Terms,* AF Manual 11-1, vol. 1, 1972; F. Casey, ed., *Compilation of Terms in Information Sciences Technology,* Federal Council for Science and Technology, 1970; *Communications-Electronics Terminology,* AF Manual 11-1, vol. 3, 1970; P. W. Thrush, comp. and ed., *A Dictionary of Mining, Mineral, and Related Terms,* Bureau of Mines, 1968; *A DOD Glossary of Mapping, Charting and Geodetic Terms,* Department of Defense, 1967; J. M. Gilliland, *Solar-Terrestrial Physics: A Glossary of Terms and Abbreviations,* Royal Aircraft Establishment Technical Report 67158, 1967; W. H. Allen, ed., *Dictionary of Technical Terms for Aerospace Use,* National Aeronautics and Space Administration, 1965; *Glossary of Stinfo Terminology,* Office of Aerospace Research, U.S. Air Force, 1963; *Naval Dictionary of Electronic, Technical, and Imperative Terms,* Bureau of Naval Personnel, 1962; R. E. Huschke, *Glossary of Meteorology,* American Meteorological Society, 1959; *ADP Glossary,* Department of the Navy, NAVSO P-3097; *Glossary of Air Traffic Control Terms,* Federal Aviation Agency; *A Glossary of Range Terminology, White Sands Missile Range, New Mexico,* National Bureau of Standards, AD 467-424; *Nuclear Terms: A Glossary,* 2d ed., Atomic Energy Commission.

McGRAW-HILL DICTIONARY OF SCIENTIFIC AND TECHNICAL TERMS, Sixth Edition

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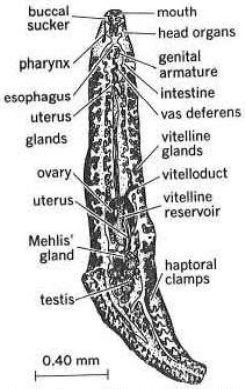
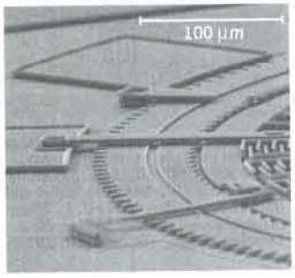
MICROCOTYLOIDEA



Ventral view of *Heteraxinoides xanthophilis* (Hargis), an ectoparasite of the spot fish *(Leiostomus xanthurus)*.

MICRO-ELECTRO-MECHANICAL SYSTEM



Close-up of a torsional ratcheting actuator fabricated by surface micromachining. *(J. Jakubczala, Sandia National Laboratories)*

cocci; chemoorganotrophic organisms with respiratory or fermentative metabolism. { ¦mī·krō·käk'sās·ē,ē }

microcode [COMPUT SCI] A code that employs microinstructions; not ordinarily used in programming. { 'mī·krō,kōd }

microcomputer [COMPUT SCI] **1.** A digital computer whose central processing unit resides on a single semiconductor integrated circuit chip, a microprocessor. **2.** An electronic device, typically consisting of a microprocessor central processing unit, semiconductor memory (RAM), graphics display, and keyboard. Typical configurations also include a hard disk for persistent memory, a compact disk drive, a disk drive which allows removable disks to be used to move data in and out of the machine, and a pointing device. { ¦mī·krō·kəm'pyüd·ər }

microcomputer development system [COMPUT SCI] A complete microcomputer system that is used to test both the software and hardware of other microcomputer-based systems. { ¦mī·krō·kəm'pyüd·ər di'vel·əp·mənt ,sis·təm }

microconsumer *See* decomposer. { ¦mī·krō·kən'sü·mər }

microcontroller [ELECTR] A microcomputer, microprocessor, or other equipment used for precise process control in data handling, communication, and manufacturing. { ¦mī·krō·kən'trōl·ər }

microcopy [GRAPHICS] A photographic reproduction that is too small to be read without magnification. { 'mī·krō,käp·ē }

microcoquina [PETR] A clastic limestone composed wholly or partially of cemented sand-size particles of shell detritus. { ¦mī·krō·kə'kē·nə }

Microcotyloidea [INV ZOO] A superfamily of ectoparasitic trematodes in the subclass Monogenea. { ¦mī·krō,käd·əl'ȯid·ē·ə }

microcoulomb [ELEC] A unit of electric charge equal to one-millionth of a coulomb. Abbreviated µC. { ¦mī·krō'kü,läm }

microcrack *See* microfissure. { 'mī·krō,krak }

microcrystalline [CRYSTAL] Composed of or containing crystals that are visible only under the microscope. { ¦mī·krō'krist·əl·ən }

microcrystalline wax [MATER] A petroleum wax containing small, indistinct crystals, and having a higher molecular weight, melting point, and viscosity than paraffin wax; used in laminated paper and electrical coil coating. { ¦mī·krō'krist·əl·ən 'waks }

Microcyprini [VERT ZOO] The equivalent name for Cyprinodontiformes. { ,mī·krō·sə'prē,nē }

microcyst [MED] A very small cyst. { 'mī·krə,sist }

microcyte [MED] A red blood cell whose diameter or mean corpuscular volume or both are more than two standard deviations below the normal mean. Also known as microerythrocyte. { 'mī·krə,sīt }

microcythemia [MED] Blood characterized by the presence of small red blood cells. { ¦mī·krō·sī'thē·mē·ə }

microcytic anemia [MED] Any form of anemia in which small erythrocytes occur in the blood. { ¦mī·krə¦sid·ik ə'nē·mē·ə }

microcytosis [MED] A blood disorder characterized by a preponderance of microcytes. { ,mī·krə·sī'tō·səs }

microdactyly [MED] A condition of abnormal smallness of fingers or toes. { ,mī·krō'dak·tə·lē }

microdensitometer [SPECT] A high-sensitivity densitometer used in spectroscopy to detect spectrum lines too faint on a negative to be seen by the human eye. { ¦mī·krō,den·sə'täm·əd·ər }

microdiagnostic program [COMPUT SCI] A microprogram that tests a specific hardware component, such as a bus or store location, for faults. { ¦mī·krō,dī·əg'näs·tik 'prō·grəm }

microdialysis [ANALY CHEM] A technique for sampling biological systems in which a short length of hollow-fiber dialysis membrane is implanted into any tissue or fluid compartment, and through which compounds in the extracellular fluid are collected for subsequent analysis. { ,mī·krō·dī'al·ə·səs }

microdiffusiometer [ENG] A type of diffusiometer in which diffusion is measured over microscopic distances, greatly reducing the time required for the measurement and the effects of vibration and temperature changes. { ,mī·krō·də'fyüz·ər }

microdisk [COMPUT SCI] A small floppy disk with a diameter between 3 and 4 inches (7 and 10 centimeters). Also known as microfloppy disk. { 'mī·krō,disk }

microdisk laser [OPTICS] A very small semiconductor laser that consists of a quantum well structure formed into a disk, such that total internal reflection of photons traveling around the perimeter of the disk results in high-Q whispering-gallery resonances. { 'mī·krō,disk ,lā·zər }

microdissection [BIOL] Dissection under a microscope. { ¦mī·krō·di'sek·shən }

Microdomatacea [PALEON] An extinct superfamily of gastropod mollusks in the order Aspidobranchia. { ,mī·krə,dō·mə'tās·ē·ə }

microearthquake [GEOPHYS] An earthquake with a low intensity, usually less than 3 on the Richter scale. Also known as microquake. { ,mī·krō'ərth,kwāk }

microelectrode [ENG] **1.** In biological research, an electrode with a microscopic tip dimension that may be placed adjacent to or inside a cell for the purpose of recording the electric potentials of single cells, passing electrical currents, or injecting electrically charged substances into the cell. **2.** In physical chemistry, a minute electrode used to perform electrolysis of small quantities of material. { ,mī·krō·i'lek,trōd }

microelectrolysis [PHYS CHEM] Electrolysis of small quantities of material. { ¦mī·krō·i,lek'trāl·ə·səs }

micro-electro-mechanical system [ENG] A system in which micromechanisms are coupled with microelectronics, most commonly fabricated as microsensors or microactuators. Abbreviated MEMS. Also known as microsystem. { ¦mī·krō·i,lek·trə·mə'kan·ə·kəl ,sis·təm }

microelectronic circuitry *See* microcircuitry. { ¦mī·krō·i,lek·'trän·ik 'sər·kə·trē }

microelectronics [ELECTR] The technology of constructing circuits and devices in extremely small packages by various techniques. Also known as microminiaturization; microsystem electronics. { ¦mī·krō·i,lek'trän·iks }

microelectrophoresis [ANALY CHEM] Direct microscopic observation and measurement of the velocity of migration of ions or other charged bodies through a solution toward oppositely charged electrodes. Also known as optical cytophorometry. { ¦mī·krō·i,lek·trə·fə'rē·səs }

microelement [ELECTR] Resistor, capacitor, transistor, diode, inductor, transformer, or other electronic element or combination of elements mounted on a ceramic wafer 0.025 centimeter thick and about 0.75 centimeter square; individual microelements are stacked, interconnected, and potted to form micromodules. [IND ENG] An element of a work cycle whose time span is too short to be observed by the unaided eye. { ¦mī·krō'el·ə·mənt }

microemulsion [MATER] A thermodynamically stable dispersion of two immiscible liquids, stabilized by surfactants; it is typically clear because the dispersed droplets are less than 100 nanometers in diameter. { ¦mī·krō·i'məl·shən }

microemulsion flooding *See* micellar flooding. { ¦mī·krō·i'məl·shən 'fləd·iŋ }

microencapsulation [CHEM ENG] Enclosing of materials in capsules from well below 1 micrometer to over 2000 micrometers in diameter. { ¦mī·krō·in,kap·sə'lā·shən }

microencephaly *See* micrencephaly. { ¦mī·krō·en'sef·ə·lē }

microengineering [ENG] The design and production of small, three-dimensional objects, usually for manufacture in high volumes at low cost. { ,mī·krō,en·jə'nir·iŋ }

microenvironment [ECOL] The specific environmental factors in a microhabitat. { ¦mī·krō·in'vī·ərn·mənt }

microerythrocyte *See* microcyte. { ¦mī·krō·ə'rith·rə,sīt }

microevolution [EVOL] **1.** Evolutionary processes resulting from the accumulation of minor changes over a relatively short period of time; evolutionary changes due to gene mutation. **2.** Evolution of species. { ¦mī·krō,ev·ə'lü·shən }

microfabrication [ENG] The technology of fabricating microsystems from silicon wafers, using standard semiconductor process technologies in combination with specially developed processes. { ¦mī·krō,fab·rə'kā·shən }

microfacies [PETR] The composition, features, or appearance of a rock or mineral in thin section under the microscope. { ¦mī·krō'fā·shēz }

microfarad [ELEC] A unit of capacitance equal to one-millionth of a farad. Abbreviated µF. { ¦mī·krō'far·əd }

microfauna [ECOL] Microscopic animals such as protozoans and nematodes. { 'mī·krə,fȯn·ə }

microfibril [CELL MOL] The submicroscopic unit of a microscopic cellular fiber. { ¦mī·krō'fī·brəl }

microfiche [GRAPHICS] A microfilm card or sheet used in