

McGRAW-HILL DICTIONARY OF SCIENTIFIC AND TECHNICAL TERMS

**Sixth
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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 meteorites, 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 Prokaryotes*, 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 Sinfo 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.

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1. Science--Dictionaries. 2. Technology--Dictionaries. I. Title: Dictionary of scientific

Trypanosomatidae [INV ZOO] A family of Protozoa, order Kinetoplastida, containing flagellated parasites which exhibit polymorphism during their life cycle. { trəˌpənˌəˈsɒˈmɑːd̩, d̩ }

trypanosome [INV ZOO] A flagellated protozoan of the genus *Trypanosoma*. { trəˌpənˌəˈsɒm }

trypanosomiasis [MED]. Any of many diseases of humans and animals caused by infection with species of *Trypanosoma* and transmitted by tsetse flies and other insects. { trəˌpənˌəˈsɒˈmɪˌəˈsʌs }

trypsin [BIOCHEM] A proteolytic enzyme which catalyzes the hydrolysis of peptide linkages in proteins and partially hydrolyzed proteins; derived from trypsinogen by the action of enterokinase in intestinal juice. { ˈtrɪpˌsɪn }

trypsinogen [BIOCHEM] The zymogen of trypsin, secreted in the pancreatic juice. Also known as protrypsin. { ˈtrɪpˌsɪnˌəˈdʒən }

tryptophan [BIOCHEM] $C_{11}H_{12}O_2N_2$ An amino acid obtained from casein, fibrin, and certain other proteins; it is a precursor of indoleacetic acid, serotonin, and nicotinic acid. { ˈtrɪpˌtəʊˈfæn }

try square [ENG] An instrument consisting of two straight-edges secured at right angles to each other, used for laying off right angles and testing whether work is square. { ˈtrɪˌskwɜː }
tschermakite [MINERAL] $Ca_2Mg_3(Al,Fe^{3+})_2(Al_2Si_6)O_{22}(OH,F)_2$ An amphibole mineral. { ˈtʃɜːmˌɑːkɪt }

Tschirnhausen's cubic [MATH] A plane curve consisting of the envelope of the line through a variable point *P* on a parabola which is perpendicular to the line from the focus of the parabola to *P*. Also known as l'Hôpital's cubic; trisectrix of Catalan. { ˈtʃɜːrnˌhɑːzˌənz ˈkyuːˌbɪk }

Tschudi engine [MECH ENG] A cat-and-mouse engine in which the pistons, which are sections of a torus, travel around a toroidal cylinder; motion of the pistons is controlled by two cams which bear against rollers attached to the rotors. { ˈtʃüːd̩ ˌɛnˌdʒɪn }

T score [STAT] A score utilized in setting up norms for standardized tests; obtained by linearly transforming normalized standard scores. { ˈtɛˌskɔːr }

T-S curve See temperature-salinity diagram. { ˈtɛʃes ˌkɜːv }

T-S diagram See temperature-salinity diagram. { ˈtɛʃes ˌdɪˌəˌɡrɑːm }

T-section filter [ELEC] T network used as an electric filter. { ˈtɛ ˌsekˌʃən ˌfɪlˌtɜː }
tsetse fly [INV ZOO] Any of various South African muscoid flies of the genus *Glossina*; medically important as vectors of sleeping sickness or trypanosomiasis. { ˈsetˌsɛ ˌflɪ }

TSH See thyrotropic hormone.

tsi [MECH] A unit of force equal to 1 ton-force per square inch; equal to approximately 1.54444×10^7 pascals. { sɪ ɔː ˌtɛˌesɪ }

T slot [DES ENG] A recessed slot, in the form of an inverted T, in the table of a machine tool, to receive the square head of a T-slot bolt. { ˈtɛ ˌslɑːt }

tsp See teaspoonful.

TSP See trisodium phosphate.

T₀ space [MATH] A topological space where, for each pair of points, at least one has a neighborhood not containing the other. Also known as Kolmogorov space. { ˌtɛ ˈzɪrˌoʊ ˈspɑːs }

T₁ space [MATH] A topological space where, for each pair of distinct points, each one has a neighborhood not containing the other. Also known as Fréchet space. { ˈtɛ ˌwɒn ˈspɑːs }

T₂ space See Hausdorff space. { ˈtɛ ˌtʊ ˈspɑːs }

T₃ space [MATH] A regular topological space that is also a T₁ space. { ˈtɛ ˌθrɛ ˈspɑːs }

T_{3 1/2} space See Tychonoff space. { ˈtɛ ˌθrɛ ɒ ˈhaf ˈspɑːs }

T₄ space [MATH] A normal space that is also a T₁ space. { ˈtɛ ˌfɔːr ˈspɑːs }

tspn See teaspoonful.

TSP See sodium pyrophosphate.

T square [GRAPHICS] A straightedge rule with a crosspiece at one end by which parallel lines are drawn perpendicular to the edge of the drawing board. { ˈtɛ ˌskwɜː }

TSR See RAM resident.

T-S relation See temperature-salinity diagram. { ˈtɛʃes rɪˌlæˌʃən }

Tsuga canadensis See Eastern hemlock. { ˌtsüːˈɡə ˌkænˌəˈdenˌsəs }

green, monoclinic mineral consisting of a hydrated basic phosphate and sulfate of lead and copper. { ˈtsüˌmæˌbɪt }

tsunami [OCEANOGR] An ocean wave or series of waves generated by any large, abrupt disturbance of the sea-surface by an earthquake in marine and coastal regions, as well as by a suboceanic landslide, volcanic eruption, or asteroid impact. { tsüˈnɑːˌmɛ }

tsunamiite [GEOL] 1. A sedimentary deposit resulting from a tsunami generated by an asteroid or comet impact. 2. Rock deposited by a tsunami. Also known as tsunamite. { tsüˈnɑːˌmɪt }

tsunamite See tsunamiite. { ˈtsüˌnɑːˌmɪt }

Tsushima Current [OCEANOGR] That part of the Kuroshio Current flowing northeastward through the Korea Strait and along the Japanese coast in the Sea of Japan. { ˈtsüˌʃhɛˌmä ˈkɔːˌrɒnt }

tsutsugamushi disease [MED] A rickettsial disease of humans caused by *Rickettsia tsutsugamushi*, transmitted by larval mites, and characterized by headache, high fever, and a rash. Also known as scrub typhus. { ˌtsüˌsəˈɡəˈmüˌʃɛ ˌdɪˌzɛz }

T switch [ELECTR] An electrical switch that joins a machine to either of two other devices. { ˈtɛ ˌswɪtʃ }

Tsytoich effect [ELECTROMAG] An effect wherein the index of refraction of a medium is much less than unity so that the phase velocity of electromagnetic waves in the medium exceeds the speed of light. { ˈtsɪˌtɔːˌvɪtʃ ɪˌfekt }

T Tauri star [ASTRON] A star, with mass from 0.5 to 2.5 solar masses, in an early stage of formation at which interaction with its associated nebulosity, as well as possible internal instabilities, make it variable in luminosity and render its spectrum very peculiar. Also known as nebular variable. { ˈtɛ ˈtɔːˌrɛ ˌstɑː }
t-test [STAT] A statistical test involving means of normal populations with unknown standard deviations; small samples are used, based on a variable *t* equal to the difference between the mean of the sample and the mean of the population divided by a result obtained by dividing the standard deviation of the sample by the square root of the number of individuals in the sample. { ˈtɛˌtest }

TTL See transistor-transistor logic.

tuba [METEOROL] A cloud column or inverted cloud cone, pendant from a cloud base; this supplementary feature occurs mostly with cumulus and cumulonimbus; when it reaches the earth's surface it constitutes the cloudy manifestation of an intense vortex, namely, a tornado or waterspout. Also known as pendant cloud; tornado cloud. { ˈtuːˌbə }

tubal bladder [VERT ZOO] A urine reservoir organ that is an enlargement of the mesonephric ducts in most fish; there are four types: duplex, bilobed, simplex with ureters tied, and simplex with separate ureters. { ˈtjuːˌbəl ˈblædˌɜː }
tubal ligation [MED] Surgical tying of the uterine tubes to prevent conception. { ˈtjuːˌbəl ɪˈɡæˌʃən }

tubatoxin See rotenone. { ˈtjuːˌbæˌtɒkˌsɪn }

tubbing [MIN ENG] The watertight cast-iron lining of a circular shaft built up of segments with the space outside the tubbing grouted to add strength and to improve watertightness. { ˈtʌbˌɪŋ }

tube [BIOL] A narrow channel within the body of an animal or plant. [ELECTR] See electron tube. [ENG] 1. A long cylindrical body with a hollow center used especially to convey fluid. 2. See inner tube. [GEOL] A passage in a cave having smooth sides and an elliptical to nearly circular cross section. [ORD] The main part of a gun, the cylindrical piece of metal surrounding the bore; tube is frequently used in referring to artillery weapons, and barrel is more frequently used in referring to small arms. { ˈtjuːb }

tube bank [MECH ENG] An array of tubes designed to be used as a heat exchanger. { ˈtjuːb ˌbæŋk }

tube bundle [ENG] In a shell-and-tube heat exchanger, an assembly of parallel tubes that is tied together with tie rods. { ˈtjuːb ˌbʌnˌdəl }

tube cell [BOT] That nucleus of a pollen grain believed to influence the growth and development of the pollen tube. Also known as tube nucleus. { ˈtjuːb ˌsel }

tube cleaner [MECH ENG] A device equipped with cutters or brushes used to clean tubes in heat transfer equipment. { ˈtjuːb ˌklɛnˌɜː }