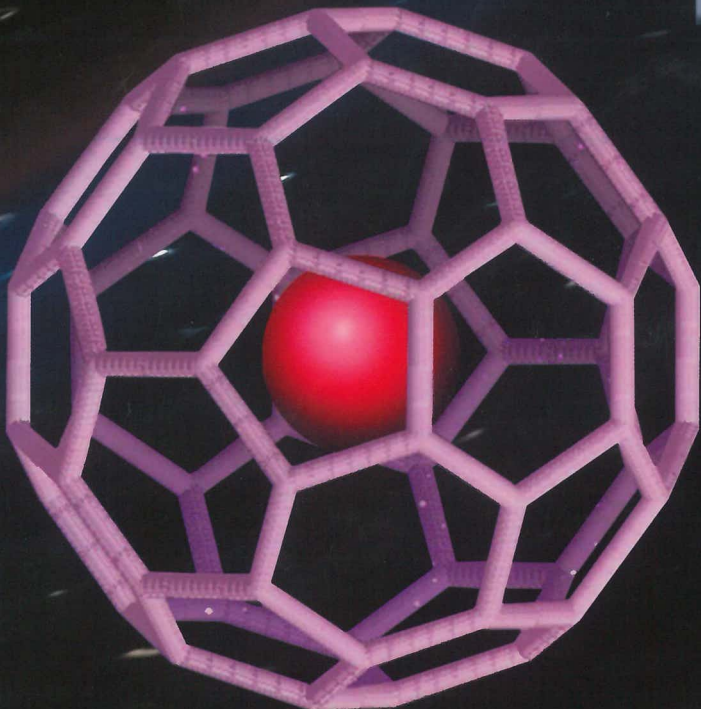


McGraw-Hill
Dictionary of
SCIENTIFIC
and
TECHNICAL
TERMS



Precision Exhibit 1017

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 Stinfor 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. Hushke, *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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fault, or generally the amount of vertical displacement on any fault. [MECH ENG] 1. The maximum diameter of the circle oved by a rotary part. 2. See stroke. { 'thrɔ }
throw-away device [ELECTR] An electronic component that is not serviced and is discarded and replaced upon failure. { 'thrɔ ə,wə di,vɪs }
throwing [TEXT] The process of twisting and manipulating yarns to impart texture. { 'thrɔ-ɪŋ }
throwing power [MET] The ability of an electroplating solution to deposit metal uniformly on an irregularly shaped cathode. { 'thrɔ-ɪŋ ,paʊ-ər }
throwout [MECH ENG] In automotive vehicles, the mechanism or assemblage of mechanisms by which the driven and driving plates of a clutch are separated. { 'thrɔ,aut }
throw-out spiral See lead-out groove. { 'thrɔ,aut ,spɪ-rəl }
thrush [MED] A form of candidiasis due to infection by *Candida albicans* and characterized by small whitish spots on the tip and sides of the tongue and the mucous membranes of the buccal cavity. Also known as mycotic stomatitis; parasitic stomatitis. [VET MED] A disease of the frog of a horse's foot accompanied by a fetid discharge. { 'thrʌʃ }
thrust [GEOL] Overriding movement of one crystal unit over another. Also known as momentum thrust. [MECH] 1. The force exerted in any direction by a fluid jet or by a powered screw. 2. Force applied to an object to move it in a desired direction. [MECH ENG] The weight or pressure applied to a bit to make it cut. [MIN ENG] 1. A crushing of coal pillars caused by excess weight of the superincumbent rocks, the floor being harder than the roof. 2. The ruins of the fallen roof, after pillars and stalls have been removed. { 'thrʌst }
thrust augmentation [AERO ENG] The increasing of the thrust of an engine or power plant, especially of a jet engine and usually for a short period of time, over the thrust normally developed. { 'thrʌst ,ɔg-mən'tā-shən }
thrust augments [AERO ENG] Any contrivance used for thrust augmentation, as a venturi used in a rocket. { 'thrʌst 'ɔg,mən-tər }
thrust axis [AERO ENG] A line or axis through an aircraft or a rocket, along which the thrust acts; an axis through the longitudinal center of a jet or rocket engine, along which the thrust of the engine acts. Also known as axis of thrust; center of thrust. { 'thrʌst ,æk-səs }
thrust bearing [MECH ENG] A bearing which sustains axial loads and prevents axial movement of a loaded shaft. { 'thrʌst ,ber-ɪŋ }
thrust block See thrust nappe. { 'thrʌ t ,blɒk }
thrust coefficient See nozzle thrust coefficient. { 'thrʌst ,kɔ-ɪ,fɪʃ-ənt }
thruster [AERO ENG] A control jet employed in spacecraft; an example would be one utilizing hydrogen peroxide. { 'thrʌs-tər }
thrust fault [GEOL] A low-angle (less than a 45 dip) fault along which the hanging wall has moved up relative to the footwall. Also known as reverse fault; reverse slip fault; thrust lip fault. { 'thrʌst ,fɔlt }
thrust horsepower [AERO ENG] 1. The force-velocity equivalent of the thrust developed by a jet or rocket engine. 2. The thrust of an engine-propeller combination expressed in horsepower; it differs from the shaft horsepower of the engine by the amount the propeller efficiency varies from 100%. [NAV ARCH] The product of the speed of advance of a marine propeller through the water, in feet per second, and the thrust delivered by the propeller in pounds, divided by 550. { 'thrʌst 'hɔrs,paʊ-ər }
thrust load [MECH ENG] A load or pressure parallel to or in the direction of the shaft of a vehicle. { 'thrʌst ,lɒd }
thrust meter [ENG] An instrument for measuring static thrust, especially of a jet engine or rocket. { 'thrʌst mɛt-ər }
thrust moraine See push moraine. { 'thrʌst mɔ-rən }
thrust nappe [GEOL] The body of rock that makes up the hanging wall of a thrust fault. Also known as thrust block; thrust plate; thrust sheet; thrust slice. { 'thrʌst ,nap }
thrust output [AERO ENG] The net thrust delivered by a jet engine, rocket engine, or rocket motor. { 'thrʌst 'aʊt,pʊt }
thrust plate See thrust nappe. { 'thrʌst ,plæt }
thrust-pound [AERO ENG] A unit of measurement for the thrust produced by a jet engine or rocket. { 'thrʌst 'paʊnd }
thrust power [AERO ENG] The power usefully expended on

thrust, equal to the thrust (or net thrust) times airspeed. { 'thrʌst ,paʊ-ər }
thrust reverser [AERO ENG] A device or apparatus for reversing thrust, especially of a jet engine. { 'thrʌst rɪ'ver-sər }
thrust section [AERO ENG] A section in a rocket vehicle that houses or incorporates the combustion chamber or chambers and nozzles. { 'thrʌst ,sek-shən }
thrust sheet See thrust nappe. { 'thrʌst ,shɛt }
thrust slice See thrust nappe. { 'thrʌst ,slɪs }
thrust slip fault See thrust fault. { 'thrʌst 'slɪp ,fɔlt }
thrust terminator [AERO ENG] A device for ending the thrust in a rocket engine, either through propellant cutoff (in the case of a liquid) or through diverting the flow of gases from the nozzle. { 'thrʌst ,tər-mə,nād-ər }
thrust-weight ratio [AERO ENG] A quantity used to evaluate engine performance, obtained by dividing the thrust output by the engine weight less fuel. { 'thrʌst 'wāt ,rā-shō }
thrust yoke [MECH ENG] The part connecting the piston rods of the feed mechanism on a hydraulically driven diamond-drill swivel head to the thrust block, which forms the connecting link between the yoke and the drive rod, by means of which link the longitudinal movements of the feed mechanism are transmitted to the swivel-head drive rod. Also known as back end. { 'thrʌst ,jɒk }
Thuban [ASTRON] A fourth-magnitude star of spectral class AO in the constellation Draco that was near the north celestial pole around 3000 B.C.; the star Alpha Draconis. { 'θju,bən }
thucolite [GEOL] Concentrations of carbonaceous matter in ancient sedimentary rocks. { 'θju-kə,lɪt }
thuja oil [MATER] An essential oil from white cedar leaves; pale-yellow, combustible oil with a camphor aroma, soluble in alcohol, ether, chloroform, carbon disulfide, and fixed oils; used in medicine, perfumery, and flavorings. Also known as arbor vitae oil. { 'θju-jə ,ɔɪl }
Thule group [ASTRON] An accumulation of asteroids whose idereal period of revolution is in the ratio 3/4 with that of Jupiter. { 'tju-lə ,grʊp }
thulia See thulium oxide. { 'θju-lē-ə }
thulite [MINERAL] A pink rose-red, or purplish-red variety of epidote that contains manganese; used as an ornamental stone. { 'θju,lɪt }
thulium [CHEM] A rare-earth element, symbol Tm, of the lanthanide group, atomic number 69, atomic weight 168.9342; reacts slowly with water, soluble in dilute acids, melts at 1550°C, boils at 1727°C; the dust is a fire hazard; used as x-ray source and to make ferrites. { 'θju-lē-əm }
thulium-170 [NUC PHYS] The radioactive isotope of thulium, with mass number 170; used as a portable x-ray source. { 'θju-lē-əm ,wɒn'sev-ən-tē }
thulium chloride [INORG CHEM] $TmCl_3 \cdot 7H_2O$ Green, deliquescent crystals soluble in water and alcohol; melts at 824 C. { 'θju-lē-əm 'klɒr,ɪd }
thulium oxalate [ORG CHEM] $Tm_2(C_2O_4)_3 \cdot 6H_2O$ A toxic greenish-white solid, soluble in aqueous alkali oxalates, loses one water at 50°C; used for analytical separation of thulium from common metals. { 'θju-lē-əm 'ɒk-sə,læt }
thulium oxide [INORG CHEM] Tm_2O_3 A white, slightly hygroscopic powder that absorbs water and carbon dioxide from the air, and is slowly soluble in strong acids; used to make thulium metal. Also known as thulia. { 'θju-lē-əm 'ɒk-sɪd }
thumbscrew [DES ENG] A screw with a head flattened in the same axis as the shaft so that it can be gripped and turned by the thumb and forefinger. { 'θəm,skrʊ }
thump [ENG A OUS] Low-frequency transient disturbance in a system or transducer characterized audibly by the vocal imitation of the word. { 'θʌmp }
Thunburg technique [BIOCHEM] A technique used to study oxidation of a substrate occurring by dehydrogenation reactions; methylene blue, a reversibly oxidizable indicator, substitutes for molecular oxygen as the ultimate hydrogen acceptor (oxidant), becoming reduced to the colorless leuco form. { 'θən,bɜrg tek,nɛk }
thunder [GEOPHYS] The sound emitted by rapidly expanding gases along the channel of a lightning discharge. { 'θən-dər }
thunderbolt [GEOPHYS] In mythology, a lightning flash accompanied by a material bolt or dart and which causes great

THUMBSCREW



Drawing of thumbscrew showing flattened head. (Reynolds Metals Co.)