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Edited by
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manganous oxide *Inorganic Chemistry.* MnO, a green powder; insoluble in water and soluble in acids; converts to Mn_3O_4 on heating in air; used as a catalyst, in ceramics, paints, and colored glass.

manganous silicate *Inorganic Chemistry.* $MnSiO_3$, red crystals or a yellowish-red powder; insoluble in water; melts at 1323°C; used as a glass and ceramic glaze colorant. It is found in nature as rhodonite.

manganous sulfate *Inorganic Chemistry.* $MnSO_4 \cdot 4H_2O$, rose-red translucent crystals that lose water to the air; soluble in water and insoluble in alcohol; used as a fertilizer and feed additive, in medicine, and for various other purposes.

manganous sulfide *Inorganic Chemistry.* MnS, green crystals; nearly insoluble in water and decomposed by heat; used in steel manufacture.

manganous sulfite *Inorganic Chemistry.* $MnSO_3$, a grayish-black or brownish-red powder, insoluble in water. Also, **manganous sulfite normal.**

mange [mānj] *Veterinary Medicine.* any of several contagious skin diseases caused by burrowing parasitic mites, resulting in intense itching, inflammation of the skin, and often hair loss; commonly affects domestic animals and sometimes also affects humans. (Going back to a French word meaning "to eat.")

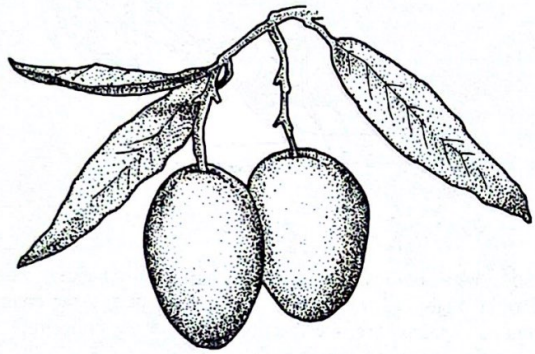
manger [mān′jər] *Agriculture.* **1.** a box in a stable or barn from which farm animals eat. **2.** a building housing farm animals. *Astronomy.* **Manger** or **the Manger.** an open cluster in Cancer with about 80 stars, faintly visible to the naked eye on clear dark nights. Also, PRAESEPE, BEEHIVE CLUSTER, M 44.

Mangin mirror *Optics.* a mirror formed by coating the back surface of a concave meniscus len; used in search lights and aircraft gunsights to reduce the spherical aberration of a mirror telescope.

mangle *Metallurgy.* the process of squeezing metal plates between rollers.

mangle gearing *Mechanical Engineering.* gearing that produces reciprocating motion by a means of a pinion that rotates in one direction and drives a rack with teeth at the ends and on both sides.

mango *Botany.* **1.** an evergreen tree of the species *Mangifera indica* in the family Anacardiaceae, native to Asia and now widely grown elsewhere in warm climates, including the southeastern U.S. **2.** the edible, sweet, oblong fruit of this tree.



mango

mangrove *Botany.* any tree of the genus *Rhizophora,* or other genera of the family Rhisophoraceae, whose species are mostly low trees noted for their dense, interlacing above-ground roots; found in marshes or tidal shores.

mangrove swamp *Ecology.* a swamp at the fringe of tropical saltwater systems characterized by an abundance of low to tall trees, especially mangrove trees, that have dense root systems ranging well beyond their trunks.

Manhattan Project *Engineering.* the unofficial name of the secret project to design and produce the first atomic bomb (1942–1945).

manhole *Engineering.* a vertical hole with a removable cover through which a person may enter a sewer or boiler for maintenance.

manhole coaming *Naval Architecture.* a raised flange or low bulwark around a manhole in a ship's deck plating.

man-hour *Industrial Engineering.* a measure of production effort based on one person working for one hour, two people working for 30 minutes, or an equivalent combination.

mania *Psychology.* a condition in which an individual exhibits intense euphoria, agitation, and hyperactivity, and often becomes consumed with grandiose ideas or schemes. (From the Greek word for "madness.")

maniac *Psychology.* **1.** a person affected with mania or exhibiting manic behavior. **2.** in popular use, a violently insane or irrational person.

manic [man′ik] *Psychology.* of, relating to, or affected by mania.

manic-depressive *Psychology.* **1.** relating to or affected by manic-depressive psychosis. **2.** a person affected in this way.

manic-depressive psychosis or **disorder** *Psychology.* a major affective disorder in which an individual alternates between states of deep depression and extreme elation. Also, BIPOLAR AFFECTIVE DISORDER. *Genetics.* this disorder which appears to be hereditary, specifically associated with a dominant allele on the short arm of the X chromosome.

Manidae *Vertebrate Zoology.* the pangolins or scaly anteaters, a family of mammals composing the order Pholidota, characterized by a lack of teeth, a highly extensible tongue, and a diet that consists mostly of termites; found in Africa and Asia.

manifest *Transportation Engineering.* a full record of the passengers or cargo aboard an aircraft, including the point of origin, destination, and flight information.

manifest content *Psychology.* the elements of a dream that are consciously recalled by the dreamer.

manifest covariance *Physics.* a property of an expression written in terms of four-vectors, tensors, Lorentz invariant numbers, and operators, making it obvious that the special theory of relativity is applicable.

manifest deviation see STRABISMUS.

manifold *Engineering.* a pipe or chamber that has multiple openings to allow passage of a fluid. *Mathematics.* a Hausdorff topological space in which every point has a neighborhood that is homeomorphic to R^n. Sometimes the requirement that the space be Hausdorff is omitted, although this allows the dimensionality of the manifold to vary from one region to another. Also, TOPOLOGICAL MANIFOLD.

manifolding *Engineering.* the process of gathering several fluid inputs to one chamber (intake manifold) or of splitting a single fluid into several streams (distribution manifold).

manifold of states *Atomic Physics.* a set of states that can be considered to represent an operator or a Lie group of operators.

manifold pressure *Mechanical Engineering.* the pressure in the intake manifold of an internal-combustion engine.

manikin *Medicine.* a model of the body, usually with movable or removable members and parts, used to illustrate anatomy for teaching purposes.

Manila hemp *Materials.* a strong, fibrous material made from the leafstalks of the abaca, *Musa textilis*; used in making ropes and fabrics. Also, **manilla.**

Manila paper *Materials.* a strong, durable, light-brown or buff-colored paper that is used for envelopes, wrapping paper, and similar purposes; it was originally made of Manila hemp but is now made of various other fibers.

Manila resin *Materials.* a type of resin extracted from various trees of the Phillipines and East Indies; used in inks, paints, and varnishes.

manioc see CASSAVA.

manipulated variable *Computer Programming.* in control systems, a quantity or condition that is changed by the computer, based on system feedback, to cause a shift in the value of some regulated condition.

manipulation *Medicine.* the skillful or dextrous use of the hands in therapeutic or diagnostic procedures, such as in physical therapy, changing the position of a fetus, or palpation. *Behavior.* any actions by an animal that somehow change or affect its environment; e.g., burrowing, nest building, or cracking open nuts and shells.

manipulator *Engineering.* any of a variety of devices used for the remote handling of hazardous materials.

manipulator-oriented language *Robotics.* a computer language specifically developed to control the end effector of a robot.

manipulator-type robot *Robotics.* a robot with a manipulative function, such as pick-and-place or loading and unloading; usually having a universal manipulator with five degrees of freedom.

manjak or **manjack** *Materials.* a type of asphaltite found especially in Barbados; used in varnishes and for insulating cables.

mankato stone *Petrology.* limestone with more than 49% calcium carbonate, 4–5% alumina, and some silica.

man-machine system *Engineering.* a system in which a worker and a machine must work together in order for the system to function properly.

man-minute *Industrial Engineering.* a measure of production effort based on one person working for one minute, two people working for 30 seconds, or an equivalent combination.