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On the cover: Photomicrograph of crystals of vitamin B₁.
(Dennis Kunkel, University of Hawaii)



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

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TRANSLATOR

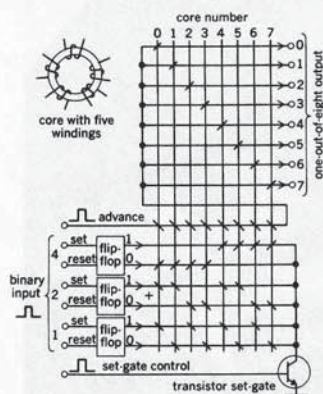
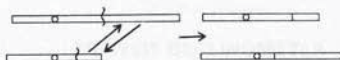


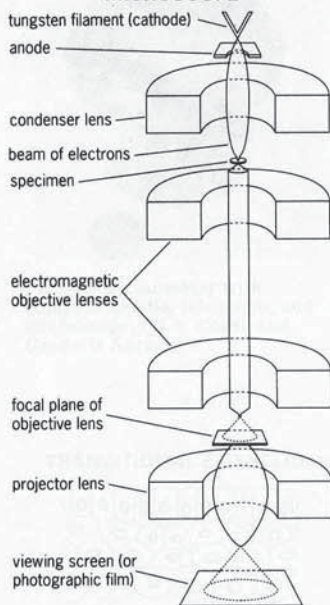
Diagram of a register circuit and translating circuit using magnetic cores, each of which has five windings. Vertical lines represent magnetic cores. Short slanted lines represent windings and also symbolize a mirror action with respect to pulses.

TRANSLATION



Translocation in which nonhomologous chromosomes become broken, switching their broken ends in the process of rejoining.

TRANSMISSION ELECTRON MICROSCOPE



The optical path in a transmission electron microscope.

gaseous or liquid molecules that is associated with their motion within their particular chemical systems. { tran'slā-shən-əl 'en-ər-jē }

translational fault [GEOL] A fault in which there has been uniform movement in one direction and no rotational component of movement. Also known as translatory fault. { tran'slā-shən-əl 'fōlt }

translation algorithm [COMPUT SCI] A specific, effective, essentially computational method for obtaining a translation from one language to another. { tran'slā-shən 'al-gə-rith-əm }

translational motion [MECH] Motion of a rigid body in such a way that any line which is imagined rigidly attached to the body remains parallel to its original direction. { tran'slā-shən-əl 'mō-shən }

translational movement [GEOL] Movement, as of fault blocks, that is uniform, without rotation, so that parallel features maintain their orientation. { tran'slā-shən-əl 'mūv-mənt }

translation gliding See crystal gliding. { tran'slā-shən 'glīd-īŋ }

translation group [CRYSTAL] The collection of all translation operations which carry a crystal lattice into itself. { tran'slā-shən 'grūp }

translation operation [PHYS] The process of moving an object along a straight line in such a way that any line which is fixed with respect to the object remains parallel to its original direction. { tran'slā-shən 'āp-ə-rā-shən }

translation surface See surface of translation. { tran'slā-shən 'sərfəs }

translator [COMPUT SCI] A computer network or system having a number of inputs and outputs, so connected that when signals representing information expressed in a certain code are applied to the inputs, the output signals will represent the same information in a different code. Also known as translating circuit. [ELECTR] A combination television receiver and low-power television transmitter, used to pick up television signals on one frequency and retransmit them on another frequency to provide reception in areas not served directly by television stations. { tran'slād-ər }

translator routine [COMPUT SCI] A program which accepts statements in one language and outputs them as statements in another language. { tran'slād-ər rū-tēn }

translatory fault See translational fault. { 'tran'slā-tōr-ē 'fōlt }

transliterate [COMPUT SCI] To represent the characters or words of one language by corresponding characters or words of another language. { tran'slīd-ə-rāt }

translocation [BOT] Movement of water, mineral salts, and organic substances from one part of a plant to another. [CYTOL] The transfer of a chromosome segment from its usual position to a new position in the same or in a different chromosome. { 'tranz-lō-kā-shən }

translucent attritus [GEOL] Attritus composed principally of transparent humic degradation matter. Also known as humodurite. { tran'slūs-əns ə'trīd-əs }

translucent medium [OPTICS] A medium which transmits rays of light so diffused that objects cannot be seen distinctly; examples are various forms of glass which admit considerable light but impede vision. { tran'slūs-əns 'mēd-ē-əm }

translucidus [METEOROL] A cloud variety occurring in a layer, patch, or extensive sheet, the greater part of which is sufficiently translucent to reveal the position of the sun, or through which higher clouds may be discerned; this variety is found in the general altocumulus, altostratus, stratocumulus, and stratus. { tran'slūs-əd-əs }

translunar [ASTRON] Beyond the orbit of the moon. { tran'slū-nər }

transmembrane distillation See membrane distillation. { ,tranz'mem-brān 'dīst-ə-lā-shən }

transmethylase [BIOCHEM] A transferase enzyme involved in catalyzing chemical reactions in which methyl groups are transferred from a substrate to a new compound. { 'tranz'meth-ə-lās }

transmethylation [BIOCHEM] A metabolic reaction in which a methyl group is transferred from one compound to another; methionine and choline are important donors of methyl groups. { 'tranz'meth-ə-lā-shən }

transmissibility [MECH] A measure of the ability of a system either to amplify or to suppress an input vibration, equal to the ratio of the response amplitude of the system in steady-state forced vibration to the excitation amplitude; the ratio may be in

forces, displacements, velocities, or accelerations. { tranz'mis-ə-bil-əd-ē }

transmission [ELECTR] 1. The process of transferring a signal, message, picture, or other form of intelligence from one location to another location by means of wire lines, radio, light beams, infrared beams, or other communication systems. 2. A message, signal, or other form of intelligence that is being transmitted. [ELECTROMAG] See transmittance. [MECH ENG] The gearing system by which power is transmitted from the engine to the live axle in an automobile. Also known as gearbox. { tranz'mish-ən }

transmission access [ELEC] The use of electric power lines and other power transmitting facilities by parties other than the owners of the lines. Also known as common carriage. { tranz'mish-ən 'ak-sēs }

transmission anomaly [ACOUST] The ratio of the transmission loss of underwater sound at a given distance from the source to the inverse square of this distance, usually expressed in decibels. { tranz'mish-ən ə-nām-ə-lē }

transmission band [ELECTROMAG] Frequency range above the cutoff frequency in a waveguide, or the comparable useful frequency range for any other transmission line, system, or device. { tranz'mish-ən 'band }

transmission coefficient [PHYS] 1. The value of some quantity associated with the resultant field produced by incident and reflected waves at a given point in a transmission medium divided by the corresponding quantity in the incident wave. 2. The ratio of transmitted to incident energy flux or flux of some other quantity at a discontinuity in a transmission medium; for sound waves, it is called the sound transmission coefficient. 3. The ratio of the transmitted flux of some quantity to the incident flux for a substance of unit thickness. [QUANT MECH] See penetration probability. { tranz'mish-ən ,kō-i-fish-ənt }

transmission control character [COMMUN] A character included in a message to control its routing to the intended destination. { tranz'mish-ən kən'trōl ,karik-tər }

transmission diffraction [ANALY CHEM] A type of electron diffraction analysis in which the electron beam is transmitted through a thin film or powder whose smallest dimension is no greater than a few tenths of a micrometer. { tranz'mish-ən dī-frak-shən }

transmission dynamometer [ENG] A device for measuring torque and power (without loss) between a propulsion power plant and the driven mechanism, for example, wheels or propellers. { tranz'mish-ən ,dī-nā-mām-əd-ər }

transmission electron microscope [ELECTR] A type of electron microscope in which the specimen transmits an electron beam focused on it, image contrasts are formed by the scattering of electrons out of the beam, and various magnetic lenses perform functions analogous to those of ordinary lenses in a light microscope. { tranz'mish-ən i'lek-trān 'mī-kra-skōp }

transmission electron radiography [ELECTR] A technique used in microradiography to obtain radiographic images of very thin specimens; the photographic plate is in close contact with the specimen, over which is placed a lead foil and then a light-tight covering; hardened x-rays shoot through the light-tight covering. { tranz'mish-ən i'lek-trān ,rād-ē-āg-rā-fē }

transmission facilities [COMMUN] Cable or radio facilities constituting interswitch trunks and subscriber access lines. { tranz'mish-ən fə-sil-əd-ēz }

transmission factor [PHYS] The ratio of the flux of some quantity transmitted through a body to the incident flux. { tranz'mish-ən 'fak-tər }

transmission function [GEOPHYS] A mathematical formulation of relationships between infrared transmission in the atmosphere, the path length, and the concentration of absorbing gases. { tranz'mish-ən ,fəŋk-shən }

transmission gain See gain. { tranz'mish-ən ,gān }

transmission gate [ELECTR] A gate circuit that delivers an output waveform that is a replica of a selected input during a specific time interval which is determined by a control signal. { tranz'mish-ən ,gāt }

transmission grating [OPTICS] A diffraction grating produced on a transparent base so radiation is transmitted through the grating instead of being reflected from it. { tranz'mish-ən 'grād-īŋ }

transmission interface converter [COMPUT SCI] A device that converts data to or from a form suitable for transfer over a channel connecting two computer systems or connecting a com-