

THE AMERICAN HERITAGE
DICTIONARY OF
SCIENCE

Robert K. Barnhart

with Sol Steinmetz, Managing Editor



Houghton Mifflin Company • Boston

EDITORIAL STAFF

For Barnhart Books

Managing Editor:

Sol Steinmetz

General Editors:

Cynthia A. Barnhart

Benjamin B. Normark

Senior Associate Editor:

Anne L. Bartling

Associate Editors:

Shirley Abramson

Maria Bastone

Gerald Dalgish

Editorial Assistants:

David F. Barnhart

Virginia M. Barnhart

Maria R. Bastone

Clarie Day

George S. Waldo

Office Assistants:

Albert S. Crocco

Katherine E. Barnhart

Rebecca L. Barnhart

Illustrations: John R. Barnhart

George Hendrix, Art Production

Henri A. Fluchère, Consultant

For Hammond Incorporated

Editorial Liaison:

George E. Sullivan

Copyright © 1986 by Barnhart Books

All rights reserved.

For information about permission to reproduce selections from
this book, write to Permissions, Houghton Mifflin Company,
2 Park Street, Boston, Massachusetts 02108.

Library of Congress Cataloging-in-Publication Data

Barnhart, Robert K.

The American Heritage dictionary of science.

Reprint. Previously published: Hammond Barnhart
dictionary of science. Maplewood, N.J. : Hammond, c1986.

I. Science—Dictionaries. I. Steinmetz, Sol.

II. Title. III. Title: Dictionary of science.

Q123.B35 1988 503'.21 88-8867

ISBN 0-395-48367-0

Printed in the United States of America

K 10 9 8 7 6 5 4 3 2 1

2 a similar movement of the foot, hindlimb, shoulder, or the like.

3 the position which results from this rotation.
[from Latin *supinatum* laid on the back, from *supinus* lying on the back, supine]

supinator (sü'pə nā'tər), *n.* a muscle, especially of the forearm, that effects or assists supination.

supp. or **suppl.**, *abbrev.* 1 supplement. 2 supplementary (angle).

supplement, *n. Geometry.* the amount needed to make an angle or arc equal 180 degrees.

supplementary angle, *Mathematics.* either of two angles which together form an angle of 180 degrees. A 60-degree angle is the supplementary angle of a 120-degree angle.

suppressor, *n. Genetics.* a mutant gene that reverses the effect of another mutant gene: *The function of a mutated gene is sometimes restored by a mutation in a different gene, called a suppressor gene, which functions by changing a part of the biochemical machinery that translates the genes* (Frank G. Rothman).

suppressor cell or **suppressor T cell**, *Immunology.* a T cell whose function is to reduce or suppress the activity of B cells so as to keep the immune system in balance: *AIDS victims develop an imbalance of those white blood cells responsible for fighting infection. Healthy persons have twice as many helper cells, which eliminate foreign organisms, as suppressor cells, which inhibit that activity; AIDS victim have more suppressor than helper cells. They are thus extremely susceptible to infection* (L. B. Berkowitz and M. J. Maslow).

supra-, *prefix.* on; above; upper, as in *supracellular*, *supramaxilla*, *suprarenal*. [from Latin *supra*, related to *super* over]

supracellular, *adj. Biology.* of or having to do with systems of biological organization above the level of the cell: *Supracellular biologists, he maintained, have made a far greater contribution to the progress of cancer therapy than molecular biologists* (Nature).

supragenic, *adj. Genetics.* of or having to do with hereditary factors above the level of the gene: . . . *supragenic functions of the chromosome, such as recombination and translocation* (H. E. Kubitschek).

supramaxilla (sü'prə mak sil'ə), *n., pl. -maxillae* (-mak-sil'ē). *Anatomy, Zoology.* the upper jaw or upper jawbone.

—**supramaxillary**, —*adj.* of or having to do with the upper jaw or upper jawbone.

—*n.* the upper jawbone.

supramolecular, *adj. Chemistry.* 1 above, or having more complexity than, a molecule.
2 made up of more than one molecule.

supraorbital, *adj. Anatomy.* situated above the orbit of the eye: *Most apes possess a marked bulge of bone, called a supraorbital ridge, which extends unbroken across the region of the skull just over the eyes. This ridge is small in the orang and very small or completely absent in man* (R. Beals and H. Hoijer).

suprarenal, *adj. Anatomy.* 1 situated above the kidney or on the kidney; adrenal.
2 of or from the adrenal glands.

—*n.* = adrenal glands.

[from *supra-* above + Latin *renes* kidneys]

suspensory ligament

supravital, *adj. Biology, Medicine.* of, having to do with, or capable of staining living cells removed from the body of an animal. Compare *intravital*.

surd (sərd), *Mathematics.* —*n.* an irrational number, such as $\sqrt{2}$.

—*adj.* that cannot be expressed as a whole number or common factor; irrational.

[from Latin *surdus* unheard]

surface, *n. Geometry.* a portion of space extending in two dimensions; something that has length and breadth but no thickness: *a plane surface. The surface of a sphere is curved.*

surface of revolution, *Geometry.* a surface which is generated by the revolution of a curve around an axis.

surface tension, *Physics.* the tension of the surface film of a liquid that makes it contract to a minimum area. It is caused by molecular forces and measured in terms of force per unit length.

surficial (sēr fish'əl), *adj. Geology.* on or of the earth's surface: *Erosion quickly erases the surficial expression of terrestrial craters* (New Scientist).

surge, *Physics.* —*v.* to increase or oscillate suddenly or violently, as an electrical current.

—*n.* a sudden or violent rush or oscillation of electrical current in a circuit. *b* a wave of pressure in a liquid system caused by a sudden stoppage of flow.

survival of the fittest, *Biology.* the survival, as a result of natural selection, of those organisms which are best adapted to their environment: *"Survival of the fittest" . . . is an expression often used to summarize the theory of natural selection. In this context it must be emphasized that "fit" refers not to health but to the production of a large number of offspring which survive to reproductive age* (Mackean, *Introduction to Biology*).

suspension, *n. Chemistry.* a mixture in which very small particles of a solid remain suspended without dissolving: *When clay is shaken up with water, in which it is insoluble, a turbid mixture is obtained, the ingredients of which slowly separate on standing. This mixture is an example of a suspension* (Offner, *Fundamentals of Chemistry*). Compare *emulsion*.

suspensor, *n. Botany.* a group of cells at the extremity of the embryo in many vascular plants, which help position the embryo in relation to its food supply: *Instead of forming a single embryo, one begins to organize from the deepest cell of each of the four columns. The cells next above elongate, forming suspensors, that is, structures that force the young, growing sporophytes deep into the tissues of the female gametophyte* (Emerson, *Basic Botany*).

suspensory ligament, *Anatomy.* a supporting ligament, especially the membrane that holds the lens of the eye in place.

cap, fāce, fāther; best, bē, tērm; pin, five;

rock, gō, ōrder; oil, out; cup, pūt, rüle,

yū in use, yū in uric;

ng in bring; sh in rush; th in thin, th in then;

zh in seizure.

ə = a in about, e in taken, i in pencil, o in

lemon, u in circus