



Academic Press Dictionary of Science and Technology

Edited by
Christopher Morris



Academic Press

Harcourt Brace Jovanovich, Publishers

San Diego New York Boston London Sydney Tokyo Toronto

This book is printed on acid-free paper. (∞)

Copyright © 1992 by ACADEMIC PRESS, INC.

All Rights Reserved.

No part of this publication may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopy, recording, or any information storage and retrieval system, without permission in writing from the publisher.

Academic Press, Inc.

1250 Sixth Avenue, San Diego, California 92101-4311

United Kingdom Edition published by

Academic Press Limited

24-28 Oval Road, London NW1 7DX

Library of Congress Cataloging-in-Publication Data

Academic Press dictionary of science and technology / edited by

Christopher Morris

p. cm.

ISBN 0-12-200400-0

1. Science--Dictionaries. 2. Technology--Dictionaries.

I. Morris, Christopher G. II. Academic Press. III. Title:

Dictionary of science and technology.

Q123.A33 1991

503--dc20

90-29032

CIP

PRINTED IN THE UNITED STATES OF AMERICA

92 93 94 95 96 97 DO 9 8 7 6 5 4 3 2 1

brownline *Graphic Arts*. a prepress proof printed in brown on white paper treated with silver nitrate. Also, VANDYKE.

brown lung see BYSSINOSIS.

brownout *Electricity*. **1.** a deliberate reduction of line voltage in order to lessen load demands. **2.** a reduction of electric lighting in a city during wartime as a precaution against air attack. **3.** any reduction or curtailment of electric power, as occurs during a storm, for example.

brown patch *Plant Pathology*. a turf disease characterized by roughly circular patches of brown grass bordered by grayish-black mycelia and caused by soil-borne fungi that multiply under conditions of high temperatures and humidity.

brown rat see NORWAY RAT.

brown recluse spider *Invertebrate Zoology*. a small, brown venomous spider, *Loxosceles reclusa*, having a violin-shaped marking on its back. Also, BROWN SPIDER, FIDDLEBACK SPIDER, VIOLIN SPIDER.

brown rice *Food Technology*. unpolished rice; that is, rice from which the bran and germ have not been removed.

brown-ring test *Analytical Chemistry*. a test for the nitrate ion using a solution of sample and dilute ferrous sulfate layered on top of concentrated sulfuric acid; a brown ring between the layers indicates a positive test.

brown root *Plant Pathology*. a disease of tropical plants caused by the fungus *Hymenochaete noxia*, in which the roots become incrustated with earth and stones bound together by brown masses of fungi filaments.

brown root rot *Plant Pathology*. **1.** a disease caused by the fungus *Thielava basicola* and characterized by the decay and darkening of the roots and lower stem, occurring most frequently in plants of the pea, cucumber, and potato families. **2.** a similar disease occurring in tobacco and caused by attacks of meadow nematodes.

brown rot *Plant Pathology*. **1.** any fungal or bacterial disease that results in browning and the breakdown of plant tissue, especially in plums and other fruit trees. **2.** in timber trees, decay caused by a fungal attack on cellulose.

browns *Graphic Arts*. a set of brownline prepress proofs.

brown seaweed *Botany*. any brown algae, especially the larger species.

brown smoke *Engineering*. a term for smoke containing a noticeable amount of solid carbon particles, but a lesser amount than black smoke.

brown snow *Meteorology*. snow that is mixed with dust particles.

brown soil *Geology*. any of a group of zonal soils having a brown surface grading into a light-colored subsurface over a layer of calcium carbonate.

brown spar *Geology*. any light-colored crystalline carbonate mineral that is colored brown by the presence of iron.

brown spider see BROWN RECLUSE SPIDER.

brown spot *Plant Pathology*. a fungus disease of corn, soybeans, and other plants that is characterized by irregular brown lesions on the leaves and fruit and by cankers on the stems; caused by any of several fungi, such as *Certophorum setosum*.

brown stem rot *Plant Pathology*. a disease of soybeans that is caused by the fungus *Cephalosporium gregatum* and characterized by a brownish discoloration and decay of the internal tissue of the stem and leaves.

brownstone *Petrology*. a ferruginous sandstone composed of quartz grains coated with iron oxide derived from the Triassic of the Connecticut River Valley. *Building Engineering*. a building, especially a multi-story house, whose exterior walls are constructed of this sandstone.

brown stringy rot *Plant Pathology*. a fungal disease of conifers characterized by brown or rusty fibrous linear markings in the inner tissues.

brown sugar *Food Technology*. **1.** unrefined or partially refined sugar that retains all or some of its natural molasses content. **2.** refined white sugar to which molasses has been added.

Brown Swiss *Agriculture*. a breed of dairy cattle varying from light to dark brown in color; originally bred in Switzerland.

browse *Agriculture*. **1.** of livestock, to feed or nibble on tender portions of trees or shrubs, such as buds, sprouts, leaves, stems, and vines. **2.** the tender portions of trees or shrubs that are fed upon in this way. *Computer Programming*. **1.** to examine information stored in a data base. **2.** to examine parts of a program in order to understand it better.

browser *Vertebrate Zoology*. an animal that feeds on those parts of plants which are above ground, that is, shoots, twigs, and the leaves attached to them. *Computer Programming*. a program that is designed to facilitate browsing of data or programs by finding the desired data, displaying it in understandable form, and so on.

browsing *Agriculture*. the act of feeding or nibbling by livestock on tender portions of trees or shrubs, as opposed to grazing.

BRU *Aviation*. the airport code for Brussels, Belgium.

brubru *Meteorology*. a squall in the East Indies.

Bruce, Sir David 1855–1931, British surgeon; discovered bacillus of undulant fever; isolated germ and agent of sleeping sickness.

Brucella *Bacteriology*. a genus of Gram-negative, nonmotile, aerobic, rod-shaped or ovoid bacteria of uncertain affiliation, occurring as intracellular parasites or pathogens in humans and animals.

Brucellaceae *Bacteriology*. in former systems of classification, a family of Gram-negative, aerobic bacteria occurring as small, nonmotile coccoid or rod-shaped cells.

brucellergen *Biochemistry*. a protein found in the aerobic bacterium *Brucella*; used in a skin test to detect the presence of the organism.

brucellergen test *Immunology*. a skin test that detects the presence of the pathogenic bacteria *Brucella*.

brucellin *Immunology*. a substance derived from the bacteria *Brucella*, used either in skin tests to determine exposure to or infection caused by *Brucella*, or as a vaccine against brucellosis.

brucellosis [broo'sə lō'sis] *Medicine*. a chronic systemic disease characterized by fever, weakness, and general malaise; it is caused by infection with a *Brucella* organism, and is transmitted to humans by direct or indirect contact with infected animals or their milk.

Bruchidae *Invertebrate Zoology*. the seed weevils, a family (type genus *Bruchus*) of small beetles with larvae that infest the seeds of peas and other legumes.

Bruch's membrane *Anatomy*. a transparent membrane that is a part of the vascular tunic of the eye, lying between the pigmented epithelium of the retina and the choroid.

brucine *Organic Chemistry*. $C_{27}H_{26}N_2O_4$, a white crystalline solid that melts at 178°C (anhydrous) or 105°C (hydrate); slightly soluble in water and soluble in alcohol, chloroform, and benzene; a poisonous alkaloid found in the seeds of the plants *Strychnos ignatii* and *Strychnos nuxvomica*, used in denaturing alcohol and as a lubricant additive. It also forms **brucine hydrochloride**, **brucine nitrate dihydrate**, **brucine phosphate**, and **brucine sulfate heptahydrate**.

brucite *Mineralogy*. $Mg(OH)_2$, a whitish, sectile, transparent to translucent trigonal mineral occurring in tabular crystals and fibrous forms, having a specific gravity of 2.38 to 2.4 and a hardness of 2.5 on the Mohs scale; found in metamorphic limestones and dolomitic schists.

Bruckner cycle *Meteorology*. an episodic climatologic cycle of a region in which relatively cool-damp and warm-dry periods alternate over a period of approximately 35 years.

brugnatellite *Mineralogy*. $Mg_6Fe^{+3}(CO_3)(OH)_{13} \cdot 4H_2O$, a micaceous, pink to brownish-white hexagonal mineral having a specific gravity of 2.14 and a hardness of 2 on the Mohs scale; found as coatings and crusts in hydrothermally altered serpentinitic rocks.

bruise *Medicine*. a discoloration of an area of skin or mucus membrane caused by blood leaking into the tissues under the skin.

bruissement *Cardiology*. a heart tremor that feels, to the touch, like a cat's purring. Also, PURRING TREMOR.

bruma *Meteorology*. an afternoon haze that appears on the coast of Chile when sea air is transported inland.

Brunauer-Emmett-Teller equation *Physical Chemistry*. an equation that determines the adsorption rate of a film more than one molecule thick; it computes the surface area of the monolayer or top layer. Also, BET EQUATION.

Brunel, Isambard 1806–1859, English engineer; famous for design and construction of railroads, bridges, and steamships.

Brunelleschi, Filippo [broo'nə les'kē] 1377–1446, Italian architect; invented linear perspective; designed the Duomo of Florence.

Brunelliaceae *Botany*. a monogeneric family of dicotyledonous evergreen trees of the order Rosales that are native to tropical America; some species are covered by a dense down.

Brunfels, Otto 1489–1534, German herbalist; wrote and published *Living Portraits of Plants*, with fine illustrations by Hans Weiditz.

Bruniaceae *Botany*. a family of dicotyledonous South American shrubs and small trees of the order Rosales, characterized by small tough leaves and sessile flowers in spikes or heads.

Brunizem see PRAIRIE SOIL.

Brunner's glands *Anatomy*. small, flattened mucus-secreting glands in the lining of the duodenum.

Bruno, Giordano c. 1548–1600, Italian philosopher; postulated an infinite universe; anticipated relativity.

Brunoniaceae *Botany*. a monospecific family of dicotyledonous perennial herbs of the order Campanulales, native to Australia and characterized by flowers on a leafless stalk.