

Hazards of Smog

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a relatively heavy dose of radiation can be repaired quickly if stable atoms are available to replace the "hot" ones. But the body can make no choice in this matter, for it has no way of distinguishing between a stable atom and a radioactive one of the same species.

The body does not even use much discretion in distinguishing between atoms of chemically similar elements. It will build a handy atom of radioactive strontium, a dangerous fission product, into living bone instead of the more normal stable calcium. That strontium atom will bombard all the tissues around itself with its radiations, and may stay in the bone for a long time.


Every radioactive isotope has its own characteristic rate of disintegration. All disintegrate according to the same law. Half of the radioactivity dies away in a period of time peculiar to that atomic species of element. For one the time may amount to microseconds, for another thousands of years. There are all sorts of rates in between.

Many fission products have short half-lives and are very "hot." One way of disposing of these, so far, is to waft them up a very tall chimney so they may be spread far and wide by the wind. Since they are very fine particles, they take a long time to settle back to earth. By that time the worst of their radioactivity has had time to die away. What is left may not be greater than the "background" in which we live constantly.

However, as atomic energy installations increase the problem will become like that from present-day industrial plants.

The potential hazard to life will be enormously greater. Today's "practical men," like those of a century ago, raise a political hue and cry against efforts to make them stop wasting their own resources. Before they are entrusted with the makings of radioactive smog, our best technical effort must be used to prevent that damage before it has a chance to happen.

Science News Letter, May 7, 1955



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Books of the Week

For the editorial information of our readers, books received for review since last week's issue are listed. For convenient purchase of any U. S. book in print, send a remittance to cover retail price (postage will be paid) to Book Department, Science Service, 1719 N Street, N.W., Washington 6, D. C. Request free publications direct from publisher, not from Science Service.

ALUMINUM PAINT AND POWER—Junius David Edwards and Robert I. Wray—*Reinhold*, 3 ed., 219 p., illus., \$4.50. Research and technological progress in this industry has made revision necessary.

AMERICAN AGRICULTURE: ITS Structure and Place in the Economy—Ronald L. Mighell—*Wiley*, Census Monograph Series, 187 p., illus., \$5.00. Based mainly on the 1950 Census of Agriculture and related material prepared in the Bureau of the Census, Commerce Department and the Agriculture Department, this book is addressed to the lay reader who is interested in agriculture.

THE BIOLOGY OF THE AMPHIBIA—G. Kingsley Noble—*Dover*, 577 p., illus., \$4.95. An unabridged republication of a book originally published in 1931.

CANCER THROUGH THE AGES THE EVOLUTION OF HOPE—Francelia Butler—*Virginia Press*, 147 p., illus., paper, \$1.00. The history of our knowledge of and our superstition about cancer from Biblical times to the early part of the 20th century.

CIGARETTES = LUNG CANCER?—Pat McGrady—*Public Affairs Committee*, Public Affairs Pamphlet No. 220, 28 p., illus., paper, 25 cents. The science editor of the American Cancer Society surveys the scientific evidence in the cigarette-tung cancer controversy.

FOURTH ANNUAL REPORT ON STRESS—Hans Selye and Gunnar Heuser, Eds.—*ACTA*, 749 p., illus., \$14.34. Published annually to review the important problems and results of clinical and laboratory research in the fields of biological stress.

GREATER REUSE OF INDUSTRIAL WATER SEEN—Richard D. Hoak—*Mellon Institute*, 5 p., illus., paper, free upon request to publisher, 4400 Fifth Ave., Pittsburgh 13, Pa. By 1975 industrial water requirements will be 170% greater than in 1950, thus making industrial reuse a major factor.

A HANDBOOK OF SAILING BARGES: Evolution and Details of Hull and Rigging—F. S. Cooper—*Adlard Coles (John de Graff)*, 112 p., illus., \$2.50. Describing and illustrating the detail of hull, rig and fittings of sailing ships.

LAND JUDGING—Edd Roberts—*University of Oklahoma Press*, 120 p., illus., \$2.50. "There is no doubt," the preface states, "that land judging is as important as livestock judging, and perhaps more basic and fundamental, in this epoch of our agricultural development."

LIFE SCIENCE: A College Textbook of General Biology—Thomas S. Hall and Florence Moog—*Wiley*, 502 p., illus., paper, \$6.50. Designed to be used for a one-year biology course or a course which offers botany and zoology in sequence. Beautifully illustrated.

METHODS FOR EVALUATION OF NUTRITIONAL ADEQUACY AND STATUS—Harry Spector, Martin S. Peterson and T. E. Friedemann, Eds.—*Advisory Board on Quartermaster Research and Development*, 313 p., illus., free upon request to Quartermaster Food and Container Institute for the Armed Forces, 1819 West Pershing Rd., Chicago 9, Ill. A symposium sponsored by the Quartermaster Food and Container Institute.

MONKEYS—Herbert S. Zim—*Morrow*, 64 p., illus., \$2.00. Telling children about many varieties of monkeys found the world over.

PLASTICS IN BUILDING—Charles R. Koehler, Ed.—*Building Research Institute*, NAS-NRC Publication 337, 149 p., illus., \$5.00. Comprising the views expressed at a conference conducted by the Building Research Institute, October 27 and 28, 1954, concerning the past, present and future uses of plastics in the building industry.

POPULATION GENETICS—Ching Chun Li—*University of Chicago Press*, 366 p., illus., \$10.00. Primarily an exposition of some of the fundamental principles and theorems established in this field.

PRACTICAL ELECTROACOUSTICS—Michael Rettinger—*Chemical Publishing Co.*, 271 p., illus., \$10.00. Describes and analyzes the essential units of audio-communication equipment for those who desire to obtain a broad idea of the principles and practices of applied electroacoustics and who wish to have a variety of working formulae and design curves.

THIS IS THE BEAGLE—George D. Whitney—*Practical Science Publishing (Garden City)*, 252 p., illus., \$3.95. A veterinarian describes the care of this breed of hunting dogs from the selection of a puppy to the training of a field champion.

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PHYSIOLOGY

Bird's Eyes Superior But Man Uses His Better

► SOME BIRDS have far better eyes than does man, Prof. Samuel R. Detwiler of Columbia University told the American Philosophical Society in Philadelphia.

But man can make far better use of his eyes because they are connected to a brain with superior visual cortex which enables him to make visual judgments and interpretations impossible to the bird, Prof. Detwiler said.

Many deviations in the structure of the eye in various animals, birds and fishes fit these creatures for their different environments, he said, particularly the light-collecting devices of night-prowling animals.

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