

# 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.

ACETYLENIC COMPOUNDS IN ORGANIC SYNTHESIS—R. A. Raphael — *Academic*, 219 p., \$6.20. A critical, practical approach to the subject for organic chemists, especially those engaged in synthetic operations.

BEEs ARE MY BUSINESS—Harry J. Whitcombe and John Scott Douglas—*Putnam's*, 245 p., illus., \$3.75. Enthusiasts describe beekeeping.

CARNEGIE INSTITUTION OF WASHINGTON YEAR BOOK No. 53—Vannevar Bush, President—*Carnegie Institution*, 311 p., illus., paper \$1.00, cloth \$1.50. Reporting researches of the year in the fields of astronomy, geophysics, terrestrial magnetism, biology and archaeology.

CELLS AND SOCIETIES—John Tyler Bonner—*Princeton University Press*, 234 p., illus., \$4.50. Groupings of creatures from amebas to men have the same biological necessities — food, reproduction, and holding the group together.

CHEMISORPTION—B. M. W. Trapnell — *Academic*, 265 p., illus., \$6.80. Written to fill a gap in existing literature.

CHEMISTRY OF THE SOIL—Firman E. Bear, Ed.—*Reinhold*, 373 p., illus., \$8.75. Useful data for soil scientists, biochemists and others concerned with the ground under our feet.

THE CITY FIGHTS BACK: A Nation-wide Survey of What Cities Are Doing to Keep Pace With Traffic, Zoning, Shifting Population, Smoke, Smog and Other Problems — Narrated and edited by Hal Burton from material developed by the Central Business District Council of the Urban Land Institute—*Citadel*, 318 p., illus., \$5.00. Optimism is expressed for the future of the city.

COLLEGE AND UNIVERSITY PROGRAMS FOR THE PREPARATION OF TEACHERS OF EXCEPTIONAL CHILDREN—Romaine P. Mackie and Lloyd M. Dunn — *Govt. Printing Office*, Office of Education Bulletin 1954, No. 13, 91 p., illus., paper, 35 cents. It is estimated that not more than a fourth of the nation's handicapped and gifted children are receiving the special help they need, chiefly because of lack of qualified teachers.

THE DANCING BEES: An Account of the Life and Senses of the Honey Bee—Karl Von Frisch translated by Dora Ilse—*Harcourt, Brace*, 183 p., illus., \$4.00. A book for the amateur nature lover with the facts unembroidered by the author's imagination.

THE ELEMENTS OF CHROMATOGRAPHY—Trevor Iltyd Williams — *Philosophical Library*, 90 p., illus., \$3.75. For university students and research workers.

THE EXPLORATION OF THE MOON — Arthur C. Clarke — *Harper*, 112 p., illus., \$2.50. Describing, step by step, the conquest of space with drawings by R. A. Smith that make it seem believable. The author is former chairman of the British Interplanetary Society.

HOME MUSIC SYSTEMS: How to Build and Enjoy Them—Edward Tatnall Canby—*Harper*, rev. ed., 302 p., illus., \$3.95. To help the reader gain a grasp of an engrossing hobby.

INTRODUCTION TO PHYSICAL GEOLOGY—Chester R. Longwell and Richard Foster Flint—*Wiley*, 432 p., illus., \$4.95. This college textbook was planned after consultation with experienced teachers of geology; a central theme is the cycle of erosion, sedimentation, and uplift of lands.

LINEARIZED THEORY OF STEADY HIGH-SPEED FLOW—G. N. Ward — *Cambridge University Press*, 243 p., illus., \$6.00. One of a series of monographs on mechanics and applied mathematics.

MAN MEETS DOG—Konrad Z. Lorenz translated by Marjorie Kerr Wilson — *Houghton Mifflin*, 211 p., illus., \$3.00. A book by a dog lover for other dog lovers.

A MANUAL FOR TRAINING THE DISABLED HOMEMAKER—Howard A. Rusk and others—*Institute of Physical Medicine & Rehabilitation*, Rehabilitation Monograph VIII, 167 p., illus., paper, \$2.00. Healthy housewives can also find much of interest in these suggestions for saving energy, reaching and bending while doing the chores in a house.

PILOTS' WEATHER HANDBOOK—J. T. Lee and Carl M. Reber — *Govt. Printing Office*, CAA Technical Manual No. 104, 143 p., illus., paper, \$1.25. What the airplane pilot needs to know about weather and its reporting. Includes a chapter on Sailplane Weather.

SUCCESSFUL MARRIAGE: A Modern Guide to Love, Sex, and Family Life—Morris Fishbein and Ernest W. Burgess, Eds. — *Doubleday*, rev. ed., 545 p., illus., \$7.50. Thirty-four out of every 100 marriages end in divorce, one of the authors points out. This book was planned to aid in salvaging some of those marriages.

THE SWANS OF WILLOW POND—Olive L. Earle — *Morrow*, 64 p., illus., \$2.00. A story for young children of the birth and growth of a swan family.

UNDER THE SEA-WIND: A Naturalist's Picture of Ocean Life—Rachel L. Carson—*New American Library*, 157 p., illus., paper, 35 cents plus 5 cents postage. Reprint of a book originally published by Oxford University Press in 1941.

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## PUBLIC HEALTH

### Can Calculate Smoke Down-Wash From Stacks

➤ ARCHITECTS CAN now calculate whether the smoke from proposed factories will dissipate in the atmosphere or come pouring down on nearby residents.

The behavior of gases from plant chimneys, generally recognized as a major cause of smog, was studied in wind-tunnel experiments at the University of Michigan by Prof. R. H. Sherlock and E. J. Leshner. Operating factories were also studied.

Under favorable conditions, for instance with light wind and high stack-gas velocity, smoke rises as it moves downwind and gradually disperses in the atmosphere until the concentration is negligible, the scientists found. On the other hand, with strong winds and low stack-gas velocity, the gases may be forced downward relatively close to the plant.

A method was described to compute the necessary height and velocity for chimneys under the weather conditions of a proposed plant site so that down-wash can be prac-

tically eliminated. The calculated gas patterns are related to the "basic plume" developed in the wind tunnel.

Under unstable wind and atmospheric conditions, the gases loop, meander, vary in height, and may increase altitude when moving over a hill, the two Michigan scientists said in *Transactions of the American Society of Mechanical Engineers* (Jan.).

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## PSYCHOLOGY

### Predicting Suicide of Patients Not Practical

➤ IT JUST is not practical to try to predict which mental patients are going to commit suicide so as to give them special preventive care.

This is the conclusion of Dr. Albert Rosen of the Veterans Administration Hospital in Minneapolis, Minn.

Dr. Rosen tried to construct a test that would make such a prediction. He made it up from questions for which the responses given by patients who later killed themselves were different from those of non-suicidal patients.

This test, he found, could have been used to predict 30 out of 40 later suicides. That sounds good. But the drawback is that it also mis-classified as suicidal 2,990 patients out of the 11,960 who did not kill themselves.

It is not sensible, Dr. Rosen points out, to treat all these nearly 3,000 patients as though they were suicidal in order to try to prevent suicide in the case of the 30 correctly diagnosed patients.

The same difficulty was encountered in the case of the doctor's clinical judgment.

Reason why it is so difficult to predict which patient is going to take his own life, Dr. Rosen explains, is because the suicide of a mental patient is really such a very rare occurrence. Only about 42 mental hospital patients per 100,000 kill themselves. This compares with about 11 per 100,000 in the general population.

Of the very severely depressed patients and those who threaten to kill themselves, only a very few actually take their own lives.

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## MATH IS FUN

By Joseph Degrazia, Ph.D.

Here is a treasury of brain-teasers. You need not be a mathematical genius to solve these problems and puzzles. What you need is to know how to THINK LOGICALLY—how to REASON. This is practically a "course" in applied logic and reasoning—besides being an immense amount of fun that will keep you absorbed for many hours. You will find not only that MATH IS FUN, but also that learning math can be fun!

CONTENTS: Trifles—On the Borderline of Mathematics—Faded Documents—Cryptograms—How Old Are Mary and Ann?—Wolf, Goat and Cabbage—and Other Odd Coincidences—Clock Puzzles—Trouble Resulting from the Last Will and Testament—Speed Puzzles—Railroad Shunting Problems—Agricultural Problems—Shopping Puzzles—Whimsical Numbers—Playing with Squares—Miscellaneous Problems—Problems of Arrangement—Problems and Games—Solutions. Many delightful and helpful illustrations.

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