

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.

ANESTHESIA: Thief of Pain—Sylvan M. Shane with introduction by Henry E. Sigerist—*Vantage*, 87 p., illus., \$2.50. Telling how an operation or childbirth can be made relatively painless.

BOSTON PUBLIC LIBRARY: A Centennial History—Walter Muir Whitehill—*Harvard University Press*, 274 p., illus., \$4.75. The history of a famous institution that first opened its doors to readers in 1854.

CHEMISTRY IN ACTION—George M. Rawlins and Alden H. Struble—*Heath*, 3d ed., 591 p., illus., \$4.40. New edition of a successful high school text.

EFFECTS OF TRAFFIC CONTROL ON STREET CAPACITY—Oscar Sutermeister and others—*Highway Research Board*, 52 p., illus., paper, 90 cents. The effect of variously timed traffic lights, stop signs, and a parked car on the traffic flow.

EINSTEIN: A Pictorial Biography—William Cahn—*Citadel Press*, 127 p., illus., paper, \$1.50. A volume of beautiful photographs.

GENETICS IN THE ATOMIC AGE—Charlotte Auerbach—*Essential Books*, 106 p., illus., \$2.00. Attempting to describe in non-technical language for the layman the branch of genetics dealing with mutation and its connection with radiation and nuclear fission.

FREE OFFERS 1955—Philip J. Kipust—*Free Offers Service*, 28 p., paper, \$1.00. Where

teachers and others can send for educational material and advertising material at no cost.

GRAPHIC SURVEY OF PHYSICS—Alexander Taffel—*Oxford Book Company*, 400 p., illus., paper, \$1.35. This little book is an outgrowth of the author's "Visualized Physics," and attempts to help the student master quickly and economically the fundamental principles and skills of physics as covered in a high-school course.

THE HARVEY LECTURES DELIVERED UNDER THE AUSPICES OF THE HARVEY SOCIETY OF NEW YORK 1954-1955—Vincent du Vigneaud and others—*Academic*, 421 p., illus., \$8.00. Publication of a series of ten of these famous lectures.

I AM A MATHEMATICIAN: The Later Life of a University Press, 64 p., illus., \$2.75. More numer-prodigy—Norbert Wiener—*Doubleday*, 380 p., \$5.00. A mathematician tells of the development of ideas that led to a new science, cybernetics, and the transition from infant prodigy to scientific leader.

LIFE IN FRESH WATER—E. S. Brown—*Oxford* ous than the familiar fish, frogs and tadpoles are the more lowly creatures, such insects as the water-boatman and water beetles, water fleas and tiny mollusks.

THE MASTER DIVER AND UNDERWATER SPORTSMAN—T. A. Hampton—*Adlard Coles (John de Graff)*, 208 p., illus., \$5.00. A diving manual giving instruction in diving, protective clothing, underwater cutting and welding, blasting and seamanship.

THE NAVAJOS—Ruth M. Underhill—*University of Oklahoma Press*, 299 p., illus., \$4.50. The story of America's largest Indian tribe by an anthropologist of the University of Denver.

OBSERVATIONAL ASTRONOMY FOR AMATEURS—J. B. Sidgwick—*Faber and Faber (Macmillan)*, 358 p., illus., \$10.00. A companion volume to the author's "Amateur Astronomer's Handbook." The handbook is devoted to the instrumental and theoretical background of practical astronomy; this work describes observation techniques.

POSSIBILITIES OF ACTION IN THE FIELD OF NUCLEAR ENERGY—Working Party on Nuclear Energy—*Organization for European Economic Cooperation*, 70 p., illus., paper, \$1.00. Discussing the need for and possibility of use of nuclear energy for peaceful power.

PROCEEDINGS OF THE UNDERWATER PHYSIOLOGY SYMPOSIUM—Loyal G. Goff, Ed.—*National Academy of Sciences-National Research Council*, 153 p., illus., paper, \$1.50. The range of topics covered includes oxygen toxicity, decompression and bends, and respiratory problems.

STEELS FOR THE USER—R. T. Rolfe—*Philosophical Library*, 3d ed., rev., 399 p., illus., \$10.00. Written by a consumer for the practical man who must make use of steel.

STUDIES OF THE PSYCHOLOGY AND BEHAVIOR OF CAPTIVE ANIMALS IN ZOOS AND CIRCUSES—H. Hediger—*Criterion*, 166 p., illus., \$6.50. By the director of the Zurich zoo and professor of animal psychology at the University of Zurich.

THE TRUTH ABOUT CANCER—Charles S. Cameron—*Prentice-Hall*, 268 p., illus., \$4.95. An attempt to save the lives of some 80,000 people each year by making known the nature, causes and treatments of cancer and telling how to spot it in its earliest stages.

SECRETS OF SPACE FLIGHT—Lloyd Mallan—*Arco*, 144 p., illus., \$2.00. Profusely illustrated.

TYPE SPECIES OF THE GENERA AND SUB-GENERA OF PARASITIC WASPS COMPRISING THE SUPERFAMILY PROCTOTRUPOIDEA (ORDER HYMENOPTERA)—C. F. W. Muesbeck and Luella M. Walkley—*Smithsonian*, Proceedings, U.S. National Museum, Vol. 105, No. 3359, 101 p., paper, free upon request direct to publisher, Washington 25, D. C.

THE WONDERFUL WORLD OF THE SEASHORE—Albro Gaul—*Appleton-Century-Crofts*, 247 p., illus., \$5.00. If you know something of the birds, plants and animals of the sea's edge, the author explains, your vacation days can become richer and more enjoyable.

THE WONDERS OF SEEDS—Alfred Stefferud—*Harcourt, Brace*, 119 p., illus., \$2.75. An editor for the U. S. Department of Agriculture tells in simple language how long and under what conditions seeds can be kept alive, and what will make them sprout and grow.

THE WORLD OF ATOMS: An Introduction to Physical Science—J. J. G. McCue and Kenneth W. Sherk—*Ronald*, 659 p., illus., \$6.50. A beginning college text presenting atomic science as uniting physics and chemistry.

YOU AND YOUR SENSES—Leo Schneider—*Harcourt, Brace*, 137 p., illus., \$2.75. A book for young people telling how you see, hear and use your other senses.

Science News Letter, March 31, 1956

ENGINEERING

Engineers Take "Pulse" Of Empire State Building

► ENGINEERS have taken the Empire State Building's "pulse," the imperceptible vibrations caused chiefly by winds, and found it normal.

To conduct the experiment, aeronautical engineers from Minneapolis-Honeywell installed a very precise gyroscope near the center of the Empire State's 85th floor.

Electronic measurements, telemetered to a recorder ten miles away, showed the building had a natural vibration, or "pulse," of between seven and eight times a minute.

Other buildings in New York tested for comparison recorded vibrations of 50 times per minute and higher.

Although the tests were not made to measure sway, they gave a clue to the building's minute shifts. The Empire State was never off center more than about one-quarter of an inch, the Minneapolis-Honeywell engineers found.

No building yet constructed, they point out, is perfectly rigid, and the Empire State comes close to maximum stability. The 365,000-ton, 102-story skyscraper is basically composed of an elastic steel frame, giving it the ability to yield before heavy winds, yet minimizing their effect.

The measuring element was a gyro known as a big gyro, or hermetic integrating gyro, developed by Minneapolis-Honeywell in collaboration with Massachusetts Institute of Technology for use in Air Force automatic fire control systems for supersonic and pilotless aircraft.

The instrument is hundreds of times more sensitive than conventional gyros. It can detect motion 3,000 times slower than the movement of the hour hand on a watch.

Science News Letter, March 31, 1956

A MATH COURSE THAT FIGURES!

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