

# Books of the Week

For the editorial information of our readers, books received for review 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.

**THE AGE OF RECONNAISSANCE**—J. H. Parry—World Pub. Co., 365 p., 80 plates, \$7.50. The story of discovery, exploration and settlement, 1450 to 1650, beyond the boundaries of Europe, describing the conditions which stimulated expansion and the consequences which followed from it.

**ANALYSIS AND SYNTHESIS OF SAMPLED-DATA CONTROL SYSTEMS**—Benjamin C. Kuo—Prentice-Hall, 528 p., diagrams, \$16. Unified treatment of digital and sample-data control systems. Book assumes basic knowledge of feedback control systems.

**BASIC CONCEPTS OF MATHEMATICS**—G. Cuthbert Webber and John A. Brown—Addison-Wesley, 328 p., \$6.75. Designed to strengthen the elementary school teacher's understanding of basic mathematical concepts and to provide practice in the intuitive methods of the "new" mathematics.

**CHEMICAL EXPLORATION OF THE BRAIN: A Study of Cerebral Excitability and Ion Movement**—Henry McIlwain—Elsevier Pub. Co. (N. Y.), 207 p., diagrams, \$7. Emphasizes the study of membrane phenomena and of how metabolically-derived energy is applied in supporting the central features of neural action.

**CHEMISTRY: First S-T-E-P-S**—Keith Gordon Irwin—Watts, F., 49 p., illus. by Julio Grandia, \$2.95. Introduces young readers to the magic of chemical change.

**DESIGN AND OPERATION OF DIGITAL COMPUTERS**—Gerhard Haas—Sams, 272 p., diagrams, \$6.95. Presents the practical results of basic circuit analysis to aid in the understanding of computer circuits at all levels.

**DEVELOPMENTS IN APPLIED SPECTROSCOPY, Vol. 2**—J. R. Ferraro and J. S. Zimek—Plenum Press, 438 p., illus., \$16. Proceedings of the 1962 symposium with 41 papers by experts on infrared and Raman spectroscopy, ultraviolet, emission, and X-ray spectroscopy, and gas chromatography.

**ELECTRONIC COMPUTERS**—Henry Jacobowitz—Doubleday, 274 p., diagrams, paper, \$2.45. A "made-simple" explanation of digital and analog computers for adult students.

**ENRICHMENT MATHEMATICS FOR HIGH SCHOOL: Twenty-eighth Yearbook**—Julius H. Hlavaty, Chmn.—National Council of Teachers of Mathematics, 388 p., diagrams, \$3; paper, \$1.50. A presentation of content material to be used by the teacher for the enrichment of the curriculum of the talented student.

**ENROLLMENT FOR ADVANCED DEGREES, FALL 1960**—Wayne E. Tolliver—OE (GPO), 485

p., maps, paper, \$2.75. Presents analysis of national data for advanced degrees, and tabulated detailed data on enrollment, by subject and institution.

**THE FLASH OF GENIUS**—Alfred B. Garrett—Van Nostrand, 249 p., \$6.50. Short stories about decisive moments in the process of invention in the lives of well-known scientists and engineers, for laymen and scientists.

**FUNDAMENTAL ELECTROMAGNETIC THEORY**—Ronold W. P. King—Dover, 2nd ed., 580 p., paper, \$2.75. Formerly (1945) entitled "Electromagnetic Engineering," this corrected text provides a systematic introduction to the physical theory of electromagnetism.

**A HANDBOOK OF PAPERMAKING**—Robert R. A. Higham—Oxford Univ. Press, 294 p., illus., \$5.60. Covers both the science and technology of papermaking, as well as papermaking practice in Europe.

**THE HEMOGLOBINS IN GENETICS AND EVOLUTION**—Vernon M. Ingram—Columbia Univ. Press, 165 p., illus., \$6. Six lectures on the structure and synthesis of hemoglobin, on abnormal hemoglobins, the switch from fetal to adult protein, and the evolution of hemoglobins.

**HOW TO KNOW THE GRASSHOPPERS, COCKROACHES AND THEIR ALLIES**—Jacques R. Helfer—Brown, Wm. C., 354 p., illus. by author, \$4.25; spiral-bound \$3.50. Presents a comprehensive cross section of U.S. species of Orthopteroidea insects, with keys for easy identification of crickets, termites, praying mantises and walking sticks.

**HOW TO PREPARE FOR COLLEGE BOARD ACHIEVEMENT TESTS: Physics**—Herman Gewirtz—Barron's Educ. Ser., 147 p., diagrams, paper, \$2.25. Contains 198 review questions with explanatory answers and five practice achievement tests.

**HYDRAULIC TRANSIENTS**—George R. Rich—Dover, 2nd rev. ed., 409 p., illus., paper, \$2.50. Revised and enlarged version of work first published in 1951.

**HYPNOTISM: An Objective Study in Suggestibility**—Andre M. Weitzenhoffer—Science Editions, 380 p., paper, \$2.65. Reprint (1953) of treatises on the phenomenon of suggestibility and the mechanisms which produce it, with discussion of past and present theories.

**INORGANIC THERMOGRAVIMETRIC ANALYSIS**—Clement Duval, transl. from French by Ralph E. Oesper—Elsevier Pub. Co. (N. Y.), 2nd rev. ed., 722 p., illus., \$22. Describes deflection and null type thermobalances, their applications and table of suggested methods for automatic inorganic analysis. Separate chapters treat all the important elements encountered in thermolyzed precipitates.

**JOURNAL OF RESEARCH IN SCIENCE TEACHING, Vol. I, No. 1**—J. Stanley Marshall, Ed.—Wiley, 98 p., paper, quarterly, annual subscription \$10. Published under the auspices of the National Association for Research in Science Teaching and the Association for the Education of Teachers in Science.

**LEARN RUSSIAN QUICKLY**—David N. Callender—Citadel Press, 230 p., paper, \$1.25. Twenty-eight brief lessons, designed to equip student rapidly to start talking and reading Russian.

**LIGHT: Principles and Experiments**—George S. Monk—Dover, 2nd ed., 489 p., illus., paper, \$2.45. Republication of introductory text at intermediate level with new appendices on lenses, coloration of grass, catadioptric systems, and the Echelle spectrograph.

**THE LOGIC OF COMPUTER ARITHMETIC**—Ivan Flores—Prentice-Hall, 493 p., diagrams, \$15. An advanced text giving a complete exposition of high-speed, binary digital computer hardware and its underlying foundations.

**MAN AND THE BIOLOGICAL WORLD: A Laboratory Manual**—Shelby D. Gerking—Burgess, 133 p., illus., paper, \$3.50. Offers ample selection of exercises in both the physiological and morphological aspects of biology.

**MELLON INSTITUTE: 50th Annual Report, 1963**—Paul C. Cross, Pres.—Mellon Institute, 47 p., photographs, paper, single copies free, request direct from publisher, 4400 Fifth Ave., Pittsburgh 13, Pa. Historical review and reports on research projects.

**NEW BOOKS FOR THE HIGH SCHOOL SCIENCE SHELF: 1961-1962**—Louis Panush—School Science & Mathematics, 41 p., paper, 40¢ direct to author, Mackenzie High School, Detroit 4, Mich. Reprint of fifth series of annotated bibliography.

**OPERATIONAL METHODS IN APPLIED MATHEMATICS**—H. S. Carslaw and J. C. Jaeger—Dover, 359 p., diagrams, paper, \$2.25. Describes the application of the Laplace Transformation to linear differential equations. Reprint of second edition (1948).

**PEARS MEDICAL ENCYCLOPAEDIA**—J. A. C. Brown—Arco, rev. ed., 508 p., \$6. A book for the layman, intended as a reference giving up-to-date information, and as a guide in practical emergencies before the doctor arrives.

**PRACTICAL TABLES FOR BUILDING CONSTRUCTION**—Norman Foster—McGraw, 248 p., diagrams, \$7.50. Pocket-size reference book for use in the field by engineers, architects and foremen.

**PRENTICE-HALL WORLD ATLAS**—Joseph E. Williams—Prentice-Hall, 2nd ed., 96 p. of maps, 42 p., index, \$10. Completely revised, presents major geographic phenomena of the world in graphic form, including economic maps and geographic regions, three-dimensional coloring used in all physical maps.

**RADIATION-INDUCED CHROMOSOME ABERRATIONS**—Sheldon Wolff, Ed.—Columbia Univ. Press, 304 p., illus., \$7.50. A report of the ninth conference on basic mechanisms in radiobiology, sponsored by the National Academy of Sciences and the National Research Council.

**SALINE WATER CONVERSION REPORT FOR 1962**—Office of Saline Water, C. F. MacGowan, Dir.—USDI (GPO), 163 p., illus., paper, \$1.25. Reports from the various branches of the divisions of research, of processes development and of demonstration plants.

**SCIENCE GAMES for Children**—Charles Vivian—Sterling, 96 p., photographs by S. A. R. Watts, \$2.95. Little experiments for the child old enough to handle a lighted candle with care.

**101 SCIENCE PROJECTS**—George K. Stone—Prentice-Hall, 101 p., illus. by Stephen R. Peck, \$3.95. Suggests ideas for science projects for young teenagers, in every branch of science.

**SCIENCE PROJECTS IN ELECTRICITY**—Edward M. Noll—Sams, 144 p., illus., paper, \$2.95. Presents principles and easy-to-follow instructions for procedures demonstrating electric circuits and their component parts.

**THE SECRET STORY OF PUEBLO BONITO**—Mary Elting and Michael Folsom—Harvey House, unpag., illus. by Kathleen Elgin, \$2.50. Tells young readers how archaeologists, step by step, unearth the secrets of a buried city.

**THE SPLENDOR THAT WAS EGYPT**—Margaret A. Murray—Hawthorn Bks., rev. ed., 354 p., photographs, maps, \$8.50. Gives concise survey of 4,000 years B.C. of Egyptian history and art, written by a scholar in language that will hold the general reader's interest.

**STUDIES IN EXPLANATION: A Reader in the Philosophy of Science**—Russell Kahl, Ed.—Prentice-Hall, 363 p., \$7.90. Selections range from pre-scientific Ovid's writings to Weber's sociology.

**SWITCHING THEORY IN SPACE TECHNOLOGY**—Howard Aiken and William F. Main, Eds.—Stanford Univ. Press, 357 p., illus., \$11.50. Twenty-five papers given at symposium in 1962, covering such subjects as circuit logics, new switches and storage devices, theoretical switching systems and system applications.

**TECHNICALLY SPEAKING: Oral Communication for Engineers, Scientists and Technical Personnel**—Harold Weiss and J. B. McGrath Jr.—McGraw, 254 p., \$7.95. A practical guide to improving skill in oral communication.

**THINKING: An Introduction to Its Experimental Psychology**—George Humphrey—Science Editions, 331 p., paper, \$2.25. Description and critique of the Wurzburg Group, on the work of Selz, the Gestalt theory, thought and motor reaction, language and thought.

**THIRD STATUS REPORT ON FUEL CELLS**—Herbert H. Hunger, Fritz R. Franke and John J. Murphy—U.S. Army Signal R&D Lab. (OTS), 129 p., paper, \$2.75. Summarizes the unclassified work done under U.S. Government programs and contracts, includes glossary and foreign patents survey.

**TIME, LIFE AND MAN: The Fossil Record**—R. A. Stirtton—Science Editions, 558 p., illus., paper, \$2.95. Reprint (1959) of comprehensive survey of the science of paleontology, includes condensed classification of plant and animal life now extinct.

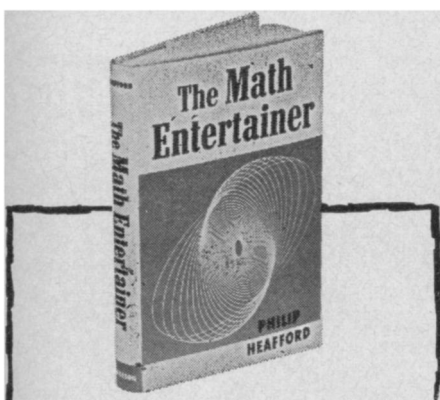
**WHERE THE BONG TREE GROWS: The Log of One Man's Journey in the South Pacific**—James Ramsey Ullman—World Pub., 316 p., maps, \$5.95. An account of individual experience on a journey through Micronesia and Polynesia.

**WORLD AVIATION DIRECTORY, Summer 1963**—Donald W. Dean, Ed.—Am. Aviation Pubs., 24th ed., 1,230 p., paper, \$12. Lists aviation companies and officials, including missile/space industries, covering the U.S. and 126 other countries.

**YOU AND YOUR CHILD AND SCIENCE: A Handbook for Parents**—Glenn O. Blough—NSTA, 28 p., illus., paper, 75¢ direct to Nat'l Education Assn., 1201 16th St., N.W., Washington 6, D. C. Tells parents how they can encourage a scientific attitude already in their young children.

**YOUR CHANGING EARTH**—Hy Ruchlis—Harvey House, 44 p., illus. by Janet and Alex D'Amato, \$2.50. About formation of mountains and erosion of land, for young readers.

• Science News Letter, 84:12 July 6, 1963



**For Math Buffs—**

**THE MATH ENTERTAINER** is the title of a brand new treasure trove of mathematical teasers, ticklers, traps, and twisters, gems, jests and gyrations—by the hundred!—to beguile, bemuse, and bewilder (perchance—whisper it softly!—to instruct).

Includes: math history, symbols, circles, triangles, measures, moneys, series, permutations, abbreviations, roots and powers, math instruments, ratios, arrangements, fractions, shapes, "limerick" problems, true-and-false, identifications, logarithms, associations, statistics, calculus "cocktails," crosswords, figures from figures, arches, codes, problems and puzzles, etc., etc. Some of the posers will seem easy, others hard, some will amuse, others exasperate—but none are dull. Answers and complete explanations are given for all problems.

Illustrated **ORDER NOW!**

**THE MATH ENTERTAINER**  
By Phillip Heafford  
\$2.95 Postfree. 10-day Money Back Guarantee  
EMERSON BOOKS, Inc., Dept. 757-M  
251 West 19 Street, New York 11