

# 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.

**ACOUSTIC PROPAGATION AND ISOLATION: A Summary of Elastic, Viscoelastic and Acoustic Isolation Properties of Materials**—F. E. Bellas—*Pa. State Univ., College of Engineering*, 51 p., paper, \$2.

**ADVANCES IN CRYOGENIC ENGINEERING**, Vol. 6—K. D. Timmerhaus, Ed.—*Plenum Press*, 622 p., illus., \$15. Proceedings of the Sixth National Conference held in August, 1960, at the University of Colorado's College of Engineering, at Boulder, with the National Bureau of Standards as co-host.

**ALTERNATING-CURRENT MACHINES**—Michael Liwshitz-Garik and Clyde C. Whipple—*Van Nostrand*, 2nd ed., 604 p., illus., \$15. Comprehensive and detailed undergraduate text for students in Electrical Engineering.

**AUDUBON AND HIS JOURNALS**, Vols. I and II—Maria R. Audubon, with zoological and other notes by Willott Coues—*Dover*, 532 p., 554 p., illus., paper, \$2 each. Unabridged republication of first edition published in 1897.

**BEASTS OF THE TAR PITS: Tales of Ancient America**—W. W. Robinson—*Anderson & Ritchie*, rev. ed., 48 p., illus. by Irene B. Robinson, \$2.50. Recreates for boys and girls the prehistoric animals whose bones and skulls were uncovered by scientists in the tar pits in

Hancock Park on Wilshire Boulevard in Los Angeles.

**BIOGRAPHICAL MEMOIRS**, Vol. XXXV—Lester R. Dragstedt and others—*Columbia Univ. Press* for the National Academy of Sciences, 383 p., illus., \$5. Biographies of recently deceased members of the Academy with bibliographies of their works.

**CALIBAN'S PROBLEM BOOK: Mathematical, Inferential and Cryptographic Puzzles**—Hubert Phillips ("Caliban"), S. T. Shovelton and G. Struan Marshall—*Dover*, 180 p., paper, \$1.25. Unabridged reprint of 1933 edition.

**CATARACT AND GLAUCOMA: Hope Through Research—National Institute of Neurological Diseases and Blindness, NIH—PHS**, 16 p., illus., paper, single copies free upon request direct from Public Health Service, Washington 25, D. C. Information for the layman.

**CHINESE MAINLAND SCIENCE AND TECHNOLOGY: OTS Selective Bibliography**—Office of Technical Services—*OTS*, 21 p., paper, 10¢ direct to OTS, U. S. Dept. of Commerce, Washington 25, D. C. Bibliography of translated abstracts from Communist Chinese scientific and technical journals. See also Chinese Supplement, SNL Dec. 10, 1960.

**THE COMPLETE SCIENTIST: An Enquiry into the Problem of Achieving Breadth in Education at School and University of Scientists, Engineers and Other Technologists**—Lever-Hulme Study Group, Sir Patrick Linstead, Dir.; preface by Sir George Thomson—*Oxford Univ. Press*, 162 p., \$2.90. Report to the British Association for the Advancement of Science.

**CYBERNETICS WITHOUT MATHEMATICS**—Henryk Greniewski, transl. from Polish by Olgierd Wojtasiewicz—*Pergamon*, 201 p., \$6. Presents the foundations of cybernetics as outlined at the First International Cybernetical Congress at Namur in 1956.

**ELEMENTARY EDUCATION and the Academically Talented Pupil**—David C. Sanders—*NEA*, 96 p., paper, \$1. Discusses the ways in which to meet the needs of the gifted pupil within the elementary-school program.

**ELEMENTS OF BIOLOGY**—Paul B. Weisz—*McGraw*, 491 p., illus., \$6.75. Beginning course in biology, analytical rather than merely descriptive, attempts to teach student to think about living process "from the molecule up."

**ELEMENTS OF ZOOLOGY**—Tracy I. Storer and Robert L. Usinger—*McGraw*, 2nd ed., 464 p., illus., \$7.25. Authors' updated abridgement of their *General Zoology*, for courses requiring a shorter text.

**THE ENCYCLOPEDIA OF MICROSCOPY**—George

L. Clark, Ed.—*Reinhold*, 693 p., illus., \$25. International authorities cover, alphabetically arranged, 26 kinds of microscopy, from autoradiography to X-ray microscopy. This reference work offers up-to-date information on the biological, medical, pharmaceutical, forensic, chemical, engineering and industrial applications of microscopy.

**EVERYMAN'S CONCISE ENCYCLOPEDIA OF RUSSIA**—S. V. Utechin—*Dutton*, 623 p., photographs, \$7.95. In alphabetical order lists some 2,050 articles on every aspect of Russian life, including biographies, topography, population, science and technology.

**THE FIRST BOOK OF HOW TO FIX IT**—Jeanne Bendick with Barbara Berk—*Watts, F.*, 69 p., illus., \$1.95. Shows boys and girls how to use tools safely for simple electrical repairs, patching, painting, gluing and bracing, and the simplest plumbing repairs.

**THE FIVE WORLDS OF OUR LIVES: Ingredients and Results of War and Revolution, A Geo-History**—Editors of Newsweek—*Hammond*, 319 p., illus., \$12.95. Pictorial review of the 20th century in upheaval: the worlds of imperialism, idealism, dictators, nationalism and space.

**THE FUNDAMENTAL ATOMIC CONSTANT**—J. H. Sanders—*Oxford Univ. Press*, 88 p., illus., \$1.60. Monograph discussing early measurements, the velocity of light, recent precise measurements and the derivation of the best values of the constants.

**FUNDAMENTALS OF SOLID ROCKET PROPULSION**—Henry Tao-Sze Hsia—*Lockheed Missiles & Space Div. (OTS)*, 47 p., paper, \$1.25. Review of solid rocket propulsion for non-specialists.

**GENERAL RELATIVITY AND GRAVITATIONAL WAVES**—J. Weber—*Interscience*, 200 p., illus., \$4.50; paper, \$2.50. Introduction to the foundations of the theory, to the Riemannian geometry and tensor calculus, to the conservation laws, and to classical experiments.

**THE HISTORY OF THE UNITED STATES FLAG: From the Revolution to the Present, Including a Guide to Its Use and Display**—Milo M. Quaife, Melvin J. Weig and Roy E. Appleman, foreword by Roger Butterfield—*Harper*, 182 p., illus., \$4.95. A definitive record of the origins and development of the American flag and other symbols of national sovereignty.

**THE INDIANS OF TEXAS: From Prehistoric to Modern Times**—W. W. Newcomb, Jr.—*Univ. of Texas Press*, 404 p., illus. by Hal M. Story, \$5.75. Anthropologist's re-creation from scattered data of all aspects of Indian existence within the present borders of the state.

**INTERMEDIARY METABOLISM IN PLANTS**—David D. Davies—*Cambridge*, 108 p., \$4. Reviews the theories of biochemical action in plants.

**THE INVENTION OF AMERICA: An Inquiry into the Historical Nature of the New World and Meaning of Its History**—*Indiana Univ. Press*, 177 p., illus., \$5. Scholarly thesis showing how the new concept of America was gradually introduced into the thinking of early 16th century Europe.

**KING OF THE CASTLES: The Story of a Kangaroo Rat**—Rutherford G. Montgomery—*World Pub.*, 62 p., illus. by Russell F. Petersen, \$2.95. Animal story for young readers.

**LABORATORY AND WORKSHOP NOTES, 1956-58**—Ruth Lang, Ed.—*Arnold, Edward (St. Martins)*, 218 p., illus., \$9.50. Articles on techniques and devices, selected from Journal of Scientific Instruments.

**MACROMOLECULAR COMPLEXES**—David F. Waugh and others, M. V. Edds, Jr., Ed.—*Ronald*, 257 p., illus., \$7. Sixth annual symposium publication of the Society of General Physiologists reporting on recent efforts to analyze complex macromolecular aggregates.

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**MAN IN NATURE**—Marston Bates—*Prentice-Hall*, 116 p., illus., \$2.95; paper, \$1.50. Highly readable addition to the Foundations of Modern Biology Series, dealing with the biological aspects of human ecology, providing a bridge between the biological and the social sciences.

**MAN'S VIEW OF THE UNIVERSE**—R. A. Lytleton—*Little*, 108 p., illus., \$3.95. Readable summary of what is known about the astronomical universe based on some of the latest investigations.

**MANUAL ON INDUSTRIAL WATER AND INDUSTRIAL WASTE WATER**—ASTM Committee D-19 on Industrial Water—*Am. Soc. for Testing Materials*, 2nd ed., 653 p., illus., \$11. New edition contains information on waste water as well as process water, considering the effects of certain waste waters on downstream uses.

**MARK CATESBY: The Colonial Audubon**—George Frederick Frick and Raymond Phineas Stearns—*Univ. of Ill. Press*, 137 p., illus., \$5. Scholarly evaluation of 18th century American ornithologist and artist, based on original American and British sources.

**MEDICAL ALMANAC, 1961-62**—Peter S. Nagan—*Saunders*, 528 p., paper, \$5. First edition of a compilation of information, statistics and other data relating to medical care, medical education, medical organizations and literature, incidence of illness and economics of medical practice.

**THE MILKY WAY GALAXY: Man's Exploration of the Stars**—Ben Bova, introd. by Albert V. Baez—*Holt, Rinehart & Winston*, 228 p., illus., \$5. Introduces the new astronomy to the general reader, the astronomy of the parabolic radar antenna, of the spectroscope and spectrograph, of radio maps.

**THE MOLDS AND MAN: An Introduction to the Fungi**—Clyde M. Christensen—*Univ. of Minn. Press*, rev. ed., 238 p., illus., \$4.75; paper, \$1.75. Up-to-date account of the fungi and their impact upon us.

**MORE RESEARCH IDEAS FOR YOUNG SCIENTISTS**—George Barr—*Whittlesey House*, 158 p., illus. by Mildred Barr, \$3. Book of experiments with background material, for boys and girls.

**MUSEUMS DIRECTORY OF THE UNITED STATES AND CANADA**—Erwin O. Christensen, Ed.—*Am. Assn. of Museums*, 567 p., \$7.50. Covers the entire museum field, includes children's museums, college museums, aquariums, arboreta, herbariums, planetariums, zoos, wildlife refuges and preservation projects. Indexed by institutions, chief executive officers and by subjects.

**ORCHIDS OF PERU**—Charles Schweinfurth—*Chicago Natural Hist. Mus.*, Fieldiana: Botany, Vol. 30, No. 4, 218 p., illus., paper, \$4.50. Continuation volume, covers trichopilia, brassia, oncidium, dichaea and many others.

**PASSPORTS AT SEVENTY**—Ethel Sabin Smith—*Norton*, 240 p., \$3.95. Retired professor of psychology tells of her journey by cargo ship around the world.

**PENGUIN SUMMER: An Adventure With the Birds of the Falkland Islands**—Eleanor Rice Pettingill—*Potter*, C. N., 198 p., photographs, \$5. Adventures of photographing the life cycle of penguins on the windswept islands off the tip of South America.

**PERSPECTIVES ON THE CONANT REPORT**—L. L. Huntley and others, introd. by Robert H. Beck—*Social Science Research Center, Univ. of Minn.*, 103 p., paper, single copies free upon request direct to publisher, Minneapolis 14, Minn. Analysis of the significance of the recommendations in the report *The American High School Today*.

**THE PLANT COMMUNITY**—Herbert C. Hanson and Ethan D. Churchill—*Reinhold*, 218 p.,

photographs, \$4.95. Textbook for semester in plant ecology, and for the general reader who desires a better understanding of the nature of vegetation.

**PLANT GROWTH REGULATION: Fourth International Conference on Plant Growth Regulation**—George L. McNew and others—*Iowa State Univ. Press*, 850 p., illus., \$8.50. Summarizes current research developments in natural plant growth substances, synthetic growth regulants, and the gibberellins.

**PLASTICS TOOLING**—Malcolm W. Riley—*Reinhold*, 2nd ed., 216 p., illus., \$7.50. Revised guide to the properties and fabrication methods of plastics as they apply to tooling.

**PREVENTION OF MENTAL DISORDERS IN CHILDREN: Initial Explorations**—Gerald Caplan, Ed.—*Basic Bks.*, 425 p., \$8.50. Preliminary work, presenting current ideas and exploratory studies of pioneering workers in the field of preventive psychiatry for children.

**PROFESSIONAL MANPOWER AND EDUCATION IN COMMUNIST CHINA**—Leo A. Orleans—*National Science Foundation (GPO)*, 260 p., \$2. Based on a thorough survey of available materials, attempts to examine the characteristics and training of Chinese professional manpower and their relationship to Communist China's technological development.

**PROGRAM IN THE AGRICULTURAL SCIENCES: Annual Report, 1959-1960**—*Rockefeller Foundation*, 292 p., illus., paper, single copies free upon request direct to publisher, 111 W. 50th St., New York 20, N. Y. Report on operational programs designed to help the people in technologically less advanced countries to improve their nutrition by growing more food.

**QUANTITATIVE BACTERIAL PHYSIOLOGY: Laboratory Experiments**—Michael J. Pelczar, Jr., P. Arne Hansen and Walter A. Konetzka—*Burgess*, 150 p., illus., paper, \$3. Reprint of 1955 edition.

**RACE AND SCIENCE: The Race Question in Modern Science**—Juan Comas and others—*Unesco (Columbia Univ. Press)*, 506 p., \$5. Eleven monographs on race by natural and social scientists participating in UNESCO's program on Race and Culture.

**REPORT OF THE COMMITTEE ON THE CONTROL OF INFECTIOUS DISEASES, 1961**—*Am. Acad. of Pediatrics*, 13th ed., 132 p., paper, \$1. Manual for pediatricians and other professionals, covers immunizations, drug dosages, serum reactions and newer viral diseases.

**THE RHETORIC OF SCIENCE: A Methodological Discussion of the Two-by-Two Table**—Roy G. Francis—*Univ. of Minn. Press*, 183 p., \$4.75. Shows the relation of the two-by-two table to logic and to problems of causality, and proposes logical forms as models for research design.

**ROADSIDE FLOWERS OF TEXAS**—Howard S. Irwin—*Univ. of Texas Press*, 295 p., illus. in color by Mary Motz Wills, \$5.75. Contains keys and descriptions of 257 species of the more common wild flowers of the state.

**THE RUSSIAN ALPHABET BOOK**—Fan Parker—*Coward-McCann*, 43 p., illus. by Nicolai Cikovsky, \$2.95. Blends alphabet with Russian geography in an attractive and informative picture book.

**SCIENCE AS A WAY OF LIFE**—Ellsworth S. Obour—*Off. of Educ. (GPO)*, 27 p., paper, 15¢. Concerned with improving science education in elementary and secondary schools.

**SCIENCE FOR THE SPACE AGE**—Victor C. Smith and B. Bernarr Vance—*Lippincott*, 616 p., illus., \$4.96. A survey course of basic science, addressed to ninth-grade pupils.

**SCIENCE IN SPACE, Chapter I: Dimensions and Problems: A General Review**—L. V. Berkner and Hugh Odishaw—*NAS-NRC*, 41 p., paper, \$1. Final review chapter of the Report by the Space Science Board.

**SCIENCE INFORMATION PERSONNEL: The New Profession Combining Science, Librarianship and Foreign Language**—Leonard Cohan and Kenneth Craven—*Modern Language Assn. (Science Information)*, 74 p., paper, \$1.50. Research project conducted for U. S. Office of Education.

**SEARCHERS OF THE SEA: Pioneers in Oceanography**—Charles Michael Daugherty—*Viking*, 160 p., illus. by Don Miller, \$3. About famous explorers of the sea, from the Argonauts to the Piccards.

**SECRET CODES, REMAINDER ARITHMETIC AND MATRICES**—Lyman C. Peck—*Nat. Council of Teachers of Mathematics*, 54 p., paper, \$1. Fun with arithmetic, from 4th to 10th grade.

**SENSATION: The Origin of Life**—Charles Leopold Mayer, transl. and preface by Harold A. Larrabee—*Antioch Press*, 145 p., \$3.50. Philosophical treatise on the senses, from the irritability of the amoeba to the development and diversity of the human use of senses.

**SOUND RECORDING WORKS LIKE THIS**—Clement Brown—*Roy Pubs.*, 62 p., illus. by George Lane, \$2.95. Explains fundamental principles and apparatus for sound reproduction.

**STRATEGIC AIR COMMAND**—Mel Hunter—*Doubleday*, 192 p., photographs, \$4.95. Author-photographer tells SAC's story, the story of the intercontinental bombers, of B-47s and their crews.

**STRATEGY AND ARMS CONTROL**—Thomas C. Schelling and Morton H. Halperin with Donald G. Brennan—*Twentieth Century Fund*, 148 p., \$2.50; paper \$1.25. Examines present military and strategic realities around the globe, written under the auspices of the Center for International Affairs, Harvard University.

**SYMPOSIUM ON RADIATION EFFECTS AND RADIATION DOSIMETRY**—C. C. Collins, Chmn—*Am. Soc. for Testing Materials*, 156 p., illus., \$4.75. Latest research on radiation effects on properties of materials as well as discussion of parameters to be considered in predicting and evaluating such effects.

**TECHNIQUES OF HIGH ENERGY PHYSICS**—David M. Ritson, Ed.—*Interscience*, 540 p., illus., \$16.75. Discussion of diffusion cloud chambers, bubble chambers, nuclear emulsions, ionization and Cerenkov counters, beam optics and beam monitoring methods.

**TELESCOPES**—Gerard P. Kuiper and Barbara M. Middlehurst, Eds.—*Univ. of Chicago Press*, 255 p., illus., \$8.50. Causively illustrated first volume of new series *Stars and Stellar Systems*, concerned with the major tools which have largely directed and shaped the progress of astronomy.

**THEORIES OF ENGINEERING EXPERIMENTATION**—Hilbert Schenk, Jr.—*McGraw*, 239 p., \$7. Basic textbook and reference work for the young mechanical, civil and electrical engineer to accompany his laboratory work.

**THEY STUDIED MAN**—Abram Kardiner and Edward Preble—*World Pub.*, 287 p., illus., \$5. About the great innovators in the development of cultural anthropology: Darwin, Spencer, Tylor, Frazer, Durkheim, Boas, Malinowski, Kroeber, Benedict and Freud.

**WESTERN BUTTERFLIES**—Arthur C. Smith—*Lane Bk. Co.*, 65 p., illus. by Gene M. Christman, \$2.95. Thorough introduction, for young collectors.

**THE WORLD OF STATISTICS**—Donovan A. Johnson and William H. Glenn—*Webster*, 64 p., illus., paper, 85¢. Mathematics enrichment booklet, on the role of graphs, the normal curve, measures of central tendency, elementary aspects of correlation, and sampling.