

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.

ADVANCES IN THE ASTRONAUTICAL SCIENCES, Vol. 8—Horace Jacobs, Ed.—Plenum Press, 589 p., illus., \$19.50. Proceedings of the American Astronautical Society's Seventh Annual Meeting, 1961, comprising space communications, solar systems physics, bioastronautics, re-entry, astrodynamics, navigation and lunar exploration.

ADVENTURES IN THE WILDERNESS—Rutherford Platt with Horace M. Albright—Am. Heritage (Meredith), 153 p., illus., \$3.95. Colorful narrative about primeval forest, prairie, desert, Alaska and Pacific Islands.

AMATEUR RADIO STATION MANUAL—Sams, unpagged, paper, \$3.95. A log book for records, data and schedules.

ANIMAL SPECIES AND EVOLUTION—Ernst Mayr—Harvard Univ. Press, 797 p., \$11.95. Important and authoritative study on genetical characteristics and evolutionary processes in animal populations with emphasis on the species level. The author integrates and interprets data throughout, presenting a continuous story of evolutionary biology.

AT HOME ON THE ICE—Patricia K. Miller and Iran L. Seligman—Holt, 28 p., illus. by John Tepich, \$1.95. Dramatically illustrated facts about penguins, for the youngest readers.

ATTITUDES AND SOCIAL RELATIONS OF FOREIGN STUDENTS IN THE UNITED STATES—Claire Sellitz and others—Univ. of Minn. Press, 434 p., \$9. Seventh and last monograph resulting from a comprehensive research program on the experiences and adjustment of foreign students to American academic and community life.

THE AUTOMATION AGE—Pauline Arnold and Percival White—Holiday House, 197 p., illus., \$3.95. Explains for young people what automation does in various fields, and what its prospects are.

THE BEHAVIORAL SCIENCES TODAY—Bernard Berelson, Ed.—Basic Bks., 278 p., \$4.95. Collection of papers in Voice of America series highlighting research fields currently important on the American scene.

BIOLOGICAL RECEPTOR MECHANISMS. Symposium of the Society for Experimental Biology, No. XVI—J. W. L. Beament, Ed.—Academic Press, 372 p., illus., \$13. Largely concerned with mechanisms resulting in information within the organism in an electrical or chemical form.

BY APOLLO TO THE MOON—Martin Caidin—Dutton, 183 p., illus., \$3.50. Describes Project Apollo for the general reader.

CHANGE, LUCK AND STATISTICS (formerly titled: The Science of Chance)—Horace C. Levinson—Dover, 356 p., paper, \$1.75. Reprint of 1950 revised edition.

CHEMICAL GUIDE TO EUROPE, 1963—Noyes Development Corp., 132 p., paper, \$12. Country-by-country alphabetical list of Western European chemical companies, with pertinent data.

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CHRISTOPHER POLHEM: The Father of Swedish Technology—Transl. from Swedish by William A. Johnson—Trinity College, Hartford, Conn., 259 p., illus., \$8. Biography of the 17th century Swedish inventor who pioneered the industrial development of Sweden.

CIVILIAN NUCLEAR POWER: Economic Issues and Policy Formation—Philip Mullenbach—Twentieth Century Fund, 406 p., \$8.50. Intended to provide an evaluation of policy formation based on economic analysis of power reactor development during the period 1953-1961.

COMPTON'S ILLUSTRATED SCIENCE DICTIONARY—Charles A. Ford, John S. Richardson and Leo Charles Fay, Eds.—David-Stewart Pub. Co. (E. C. Seale & Co.), 632 p., illus., \$18.95. For the general reader and young scientist, word definitions and correct uses selected by a group of scientists and curriculum specialists, up-to-date and wide coverage, from "aa" (type of lava) to "zymolysis."

CORROSION OF CONCRETE AND ITS PREVENTION—P. P. Budnikov and others, transl. from Russian—Israel Program for Scientific Transl. (OTS), 244 p., illus., paper, \$2.50. Papers presented at 1953 conference of the Academy of Sciences of the U.S.S.R.

COSMETIC MATERIALS: Their Origin, Characteristics, Uses and Dermatological Action, Vol. 2—Ralph G. Harry, rev. by William W. Myddleton—Chemical Pub. Co., rev. ed., 803 p., \$19.50. Alphabetical summary showing for each substance synonyms, occurrence, molecular weight, formula, physical and chemical properties and B.P. standard.

DECE-DUO CONVERSATIONS—Version in Interlingua by B. C. Sexton—Storm Pubs., 28 p., paper, \$1. Twenty-two dialogues that appeared in "The Linguist" in other languages during 1961, each paragraph numbered for easy comparison.

THE ELEANOR ROOSEVELT WE REMEMBER—Helen Gahagan Douglas; Aaron J. Ezickson, Pict. Ed.—Hill & Wang, 176 p., 150 photographs, \$5.95. Captures the spirit of one of America's great First Ladies who dedicated a long life to her many humanitarian interests.

ELECTROCHEMISTRY: Theoretical Principles and Practical Applications—Giulio Milazzo with others, transl. from Italian by P. J. Mill—Elsevier Pub. Co. (N. Y.), 708 p., diagrams, \$20. A teaching text and reference work for non-specialists.

ENLARGED PRINTS FROM LIBRARY MICROFORMS: A Study of Processes, Equipment and Materials—William R. Hawken—Am. Lib. Assn., 131 p., illus., \$4. Study evaluates existing print-out equipment, intended to assist librarians in selecting equipment best suited to their needs.

ESSENTIALS OF HEALTHIER LIVING—Justus J. Schifferes, foreword by Howard R. Craig—Wiley, 2nd ed., 361 p., illus., translation inserts, \$6.25. College text, fully revised, includes new concepts in mental health, environmental health, DNA and RNA, and weight control.

EVERYDAY PROBLEMS IN SCIENCE—Wilbur L. Beauchamp, John C. Mayfield and Paul DeHart Hurd—Scott, 576 p., illus., \$5.60. General science course for grade 8 or 9.

FRANCIS BACON AND THE MODERN DILEMMA—Loren Eiseley—Univ. of Neb. Press, 98 p., \$3. Essays on Bacon's views on the advancement of learning, science and education.

THE HERITAGE OF PERSIA—Richard N. Frye—World Pub. Co., 301 p., 126 photographs, maps, \$7.50. Presents the pre-Islamic history of Iran based on the latest scholarly work in the various fields, in readable form for students and the general reader.

HIGHWAY AERIAL SURVEYS: Controls and Rights-of-Way, 1962—Robert L. Lewis and others—Highway Res. Bd. (NAS-NRC), 84 p., illus., paper, \$2. Conference papers and discussions of the 41st annual meeting.

HOW TO CHERISH AN INDIAN GUEST—Mollie and Russell Smart—AHEA, 8 p., paper, send 15¢ direct to Am. Home Economics Assn., 1600 20th St., N.W., Washington 9, D. C. First in a

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new series on "Entertaining Foreign Visitors," telling about national customs, diets and habits it would be helpful to consider as a host.

HOW TO KNOW THE WILD FLOWERS—A Guide to the Names, Haunts and Habits of Our Common Wild Flowers—Mrs. William Starr Dana, nomenclature rev. by Clarence J. Hylander—Dover, rev. ed., 418 p., illus. by Marion Satterlee, paper, \$1.85. Reprint of classic (1900) flower guide to 500 species in the northeastern United States.

HOW TO REPAIR MAJOR APPLIANCES—Ernest Tricomi—Sams, 223 p., illus., paper, \$3.95. Discusses theory, functioning, electrical characteristics and major components of typical household appliances.

INTRODUCTION TO TOPOLOGY—Maynard J. Mansfield—Van Nostrand, 116 p., \$4.50. Designed for a one-semester undergraduate course, provides elementary definitions, examples, counterexamples and theorems of point set topology.

LABORATORY MANUAL OF MICROBIOLOGY—H. Magdalene Steward—Mosby, 3rd ed., 112 p., illus., paper, \$2.95. Manual intended to supplement lectures.

THE LAND DIVIDED, THE WORLD UNITED—Paul Rink—Messner, 189 p., map, \$3.95. The story of the Panama Canal, for young people.

LIFE AND DISEASE: New Perspectives in Biology and Medicine—Dwight J. Ingle, Ed.—Basic Bks., 441 p., diagrams, \$8.50. Essays by leading investigators, including six Nobel Prize winners, exploring some advanced insights in the fields of evolution, infection, metabolism, cancer, the circulatory and the nervous systems.

LOGIC, COMPUTING MACHINES AND AUTOMATION—Alice Mary Hilton—Spartan Bks., 427 p., illus., \$9. Presents an account of the common origins and interconnections between mathematics and logic, and how these lead to the application of logical principles.

THE MAN-IN-SPACE DICTIONARY: A Modern Glossary—Martin Caidin—Dutton, 224 p., photographs, illus. by Fred L. Wolf, \$6.95. Clear, non-technical explanations of almost 1,900 terms, ranging from "Aberration" to "Zulu Time."

MATHEMATICAL OPTIMIZATION TECHNIQUES—Richard Bellman, Ed.—Univ. of Calif. Press, 346 p., diagrams, \$8.50. Symposium papers include discussion of developments in linear, integer, convex and dynamic programming, flight trajectories, and statistical decisions.

MEDICAL HISTORY OF CONTRACEPTION—Norman E. Himes, foreword by Robert Latou Dickinson, preface by Alan F. Guttmacher—Gamut Press, 521 p., illus., \$7.50. A scholarly and readable survey of contraceptive techniques through the ages, long out of print (1936), brought up-to-date in new preface.

METHODS OF AIR DEODORIZATION—W. Summer—Elsevier Pub. Co. (N. Y.), 398 p., illus., \$16. Presents the psycho-physiological and engineering fundamentals useful in the fight against air pollution by smell.

MICROBES AND MEN—Harold J. Simon—NSTA (Scholastic Bk. Serv.), 160 p., illus., paper, send 50¢ direct to Scholastic Book Services, 900 Sylvan Ave., Englewood Cliffs, N. J. Deals with the growth of man's understanding of the microbial world, includes suggestions for student projects and activities.

MODERN THEORIES OF THE UNIVERSE—James A. Coleman—New Am. Lib., 211 p., illus. by author, paper, 60¢. Written at elementary level for scientifically minded readers.

THE MOON: Target for Apollo—Michael Chester and David McClinton—Putnam, 159 p., photographs, illus. by Robert Bartram, \$3.50. Explains in simple terms some of the science and technology leading up to an attempted moon landing.

THE NATURE OF BIOLOGICAL DIVERSITY—John M. Allen, Ed.—McGraw, 304 p., illus., \$11.50. Papers deal mainly with the development of heterogeneity, from a discussion of the origin of organic molecules to an examination of growth and differentiation in the nervous system.

NOTES ON THE BIRDS OF GREAT SMOKY MOUNTAINS NATIONAL PARK—Arthur Stupka—Univ. of Tenn. Press, 242 p., paper, \$3. From national park naturalist's daily records kept during 25 years, on the occurrence and behavior of more than 200 species of birds.

100 DESERT WILDFLOWERS IN NATURAL COLOR—Natt N. Dodge—Southwestern Monuments Assn., 64 p., 100 color photographs by E. Text, \$1.50. A naturalist's guide to desert bloom.

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THE PACIFIC NORTHWEST—Stewart Holbrook, Nard Jones and Roderick Haig-Brown, Anthony Netboy, Ed.—Doubleday, 191 p., photographs, maps, \$5.95. Introduction to Oregon, Washington and British Columbia.

PHILOSOPHY OF SCIENCE: The Delaware Seminar, Vol. 1, 1961-1962—Bernard Baumrin, Ed.—Interscience, 370 p., \$9.75. Explores the differences of opinion among scientists and philosophers on the subject of reconciling the scientific and humanistic cultures of our time.

PHOTOCOPYING FROM BOUND VOLUMES: A Study of Machines, Methods and Materials—William R. Hawken—Am. Lib. Assn., 208 p., illus., \$5. Comprehensive evaluation of the processes and the equipment available, discussing the advantages and disadvantages of each method and the limitations of existing equipment.

A PLANET CALLED EARTH—George Gamow—Viking, 257 p., illus., \$5.75. A readable summing up of the latest findings and theories concerning earth as a part of the universe, its geology, and the biology and biochemistry of life.

PORTALS TO THE PAST: The Story of Archaeology—Katherine B. Shippen—Viking, 255 p., illus. by Mel Silverman, \$4.50. For young students and the general reader.

QUANTITATIVE ORGANIC ANALYSIS via Functional Groups—Sidney Siggia—Wiley, 3rd ed., 697 p., diagrams, \$19. Extensively revised handbook and standard textbook on chemical methods of analysis.

RAND McNALLY CAMPGROUND GUIDE—Rand McNally, 216 p., maps, \$2.95. Up-to-date family camping directory with sectional maps of road atlas giving key to 8,000 campgrounds in the United States and Canada.

RAND McNALLY VACATION GUIDE: United States, Canada, Mexico—F. Dorothy Wood, Ed.—Rand McNally, 198 p., illus. maps, paper, \$1.95. Scenic North America for the automobile traveler, with up-to-date information for each region.

READINGS IN ADOPTION—I. Evelyn Smith—Philosophical Lib., 532 p., \$7.50. Collection of articles on general concepts of adoption, adoption services as related to natural parents, to the child and to adoptive parents.

THE SCIENCE OF BIOLOGY—Paul B. Weisz—McGraw, 2nd ed., 786 p., illus., \$8.50. Thoroughly updated text with expanded discussion of morphological biology and plant biology. Analytical approach designed to serve both the terminal student and the prospective major in biology.

THE SCIENCE OF HUMAN COMMUNICATION—Wilbur Schramm, Ed.—Basic Bks., 158 p., \$4.50. About communication research in the U.S., susceptibility to persuasion, mass media and personal influence, and other related social research.

SCIENCE SHAPES TOMORROW—Gerald Leach—Day, 140 p., photographs, diagrams, \$5.95. A British science writer tells about some of the advances in technology based on recent breakthroughs in basic science.

THE SCOPE AND FINANCING OF URBAN RENAISSANCE AND DEVELOPMENT—Peter Wagner—Nat. Planning Assn., 55 p., paper, \$1.50. Includes statement by the NPA Business Committee in regard to large-scale urban renewal, including mass transportation.

SEMIMICRO EXPERIMENTS IN CHEMISTRY—John W. Sulcoski—Burgess, 128 p., illus., paper, \$2.90. Manual discusses laboratory techniques and 50 problems for the laboratory.

SIX CULTURES: Studies of Child Rearing—Beatrice B. Whiting, Ed.—Wiley, 1,017 p., photographs, \$12.50. Studies of village family life in Kenya, India, Japan, Mexico, the Philippines and New England.

SO YOU WANT TO BE A HAM—Robert Hertzberg—Sams, 3rd ed., 192 p., illus., paper, \$2.95. Updated guide for the radio amateur.

SO YOU WANT TO BE A PHYSICIST—Alan E. Nourse—Harper, 182 p., \$3.50. About the science of physics, the qualities desirable in a physicist and the general and specific training required.

SPECTROMETRIC IDENTIFICATION OF ORGANIC COMPOUNDS—Robert M. Silverstein and G. Clayton Bassler—Wiley, 177 p., \$8.50. To aid the organic chemist in the identification of organic molecules by their responses to four energy probes: spectrometry of mass, infrared, nuclear magnetic resonance and ultraviolet.

THEORIES AND PRACTICES OF INDUSTRIAL WASTE TREATMENT—Nelson Leonard Nemerow—Addison-Wesley, 557 p., illus., \$15. Practical textbook for graduate students in sanitary engineering and reference for practicing municipal and industrial plant engineers.

TOPOLOGICAL ANALYSIS AND SYNTHESIS OF COMMUNICATION NETWORKS—Wan Hee Kim and Robert Tien-Wen Chien—Columbia Univ. Press, 310 p., diagrams, \$11.50. Presents uniform approach to such engineering problems as analysis and synthesis of electrical networks, sampled data feedback, switching networks and communication nets.

WHAT SCIENCE KNOWS ABOUT LIFE: An Exploration of Life Sources—Heinz Woltereck, transl. from German by Mervyn Savill—Association Press,

240 p., 48 p. of photographs, \$6.50. Focuses on biological research findings about the origin, nature, development, multiformity, function and span of life.

THE WORLD OF ATOMS: An Introduction to Physical Science—J. J. G. McCue with Kenneth W. Sherk—Ronald, 2nd ed., 775 p., illus., \$8.50. Textbook focuses on the atom and describes the chain of experiments and concepts that have led to some of the present theories about matter.

WORLD-WIDE SPANISH DICTIONARY: Spanish-English; English-Spanish (American English)—Based on Fucilla Spanish Dictionary, rev. by Ida Navarro Hinojosa; Emilio C. LeFort, Ed.—Follett, 528 p., paper, \$1.65. Modern, 40,000 entries, conversation guide.

THE YOUNG PATHFINDER'S BOOK OF SNAKES—Hilda Simon—Hart, 127 p., illus. by author, \$3.95. Tells boys and girls how to distinguish between varieties and describes the strange habits of snakes in many parts of the world.

• Science News Letter, 83:364 June 8, 1963

BIOLOGY

Tiny Worm Lizards in Sand React to Light

► TINY WORM LIZARDS, creeping in their underworld of moist sand, are not blind, as scientists previously thought.

With an improved method of "listening" to movements of animals digging under the soil, biologists now can record accurate data on undisturbed animal activity.

Worm lizards, *Amphisbaena caeca*, react to sudden low-level light, Drs. Carl Gans and James J. Bonin of the State University of New York reported in *Science*, 140:398, 1963.

Vibrations of animals digging or turning in a dry or moist soil can now be picked up and recorded continuously by a microphone, amplifier and recorder setup. This system permits animals to move about undisturbed in their underworld environments without being removed to unnatural cages where their activities are recorded by conventional techniques such as time-lapse photography, treadles or foot plates connected to microswitches, or light beams impinging upon photoelectric cells.

Animal vibrations can be picked up only within a certain distance, the scientists reported. For the lizard experiment, the animals were confined in a three-quarter-inch layer of sand between two plastic panes in a box 17 inches long and 12 inches high.

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Do You Know?

The average family of four in the United States uses 550 gallons of water a day.

A chemical element, *technetium*, that occurs naturally only in the stars, may help to keep steel from rusting.

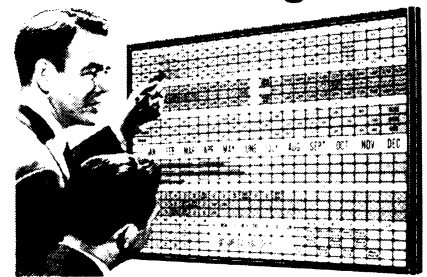
Manganese, nickel, cobalt and copper can now be recovered profitably from the ocean floor.

Some 1,500 million people, half the world's population, suffer from hunger and malnutrition today.

A frequently fatal tear in the lining of the body's main artery near the heart can now be repaired by surgery.

• Science News Letter, 83:365 June 8, 1963

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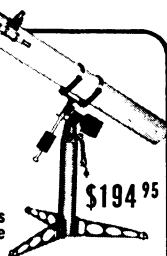


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