

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 COMPARATIVE PHYSIOLOGY AND BIOCHEMISTRY, Vol. I—O. Lowenstein, Ed.—*Academic Press*, 392 p., illus., \$12. Chief emphasis is on the comparative aspects governing the behavior of living matter, and on the formulation of generalizations of over-all biological rather than specifically restricted validity.

THE ATOM: Friend or Foe?—Charles-Noel Martin, transl. by T. Schoeters—*Watts, F.*, 236 p., photographs, diagrams, \$4.95. Explains the basic scientific principles involved in tapping nuclear energy and in the creation of radioisotopes, analyzes existing plans for utilizing nuclear energy and discusses the problems of radioactive wastes.

BETWEEN US WOMEN: A Woman Doctor's Handbook on Pregnancy and Birth—Laura E. Weber—*Doubleday*, 153 p., illus., paper, \$1.95. Written to help the mother-to-be understand the fundamentals of pregnancy, labor, and delivery.

BEYOND THE HUNDREDTH MERIDIAN: John Wesley Powell and the Second Opening of the West—Wallace Stegner, introd. by Bernard DeVoto—*Houghton*, 438 p., maps., paper, \$2.45. An attempt to write a biography that is a history not of a personality but of a career.

THE CHEMISTRY OF LIVING CELLS—Helen R. Downes—*Harper*, 2nd ed., 645 p., illus., \$9.75. Provides the material for a course in the fundamentals of biochemistry, and is intended to serve as a reference book for students whose primary interest is in botany, zoology, or related fields.

COMPARATIVE CHORDATE ANATOMY: A Laboratory Manual—Martin J. Ulmer, Robert E. Haupt and Ellis A. Hicks—*Harper*, 268 p., illus., paper, \$4.95. Scope of manual is sufficiently broad and organization flexible enough to permit use on either a quarter or semester basis.

CONCISE CHEMICAL AND TECHNICAL DICTIONARY—H. Bennett, Ed.—*Chemical Pub. Co.*, 2nd enlarged ed., 1039 p., \$15. 60,000 definitions of basic technical terms internationally accepted by chemists, engineers and scientific workers. Features up-to-date compilation of trade-names and proprietary products.

CONQUEST OF THE SEA—Cord-Christian Troebst, transl. from German by Brian C. and Elsbeth Price—*Harper*, 269 p., photographs, \$4.95. Tells the story of the economic, military and scientific aspects of the latest developments under water.

DESIGN FOR THE STUDY OF AMERICAN YOUTH—John C. Flanagan and others—*Houghton*, 240 p., diagrams, paper, \$1.95. Introduces educational survey "project Talent," a large-scale attempt to discover what may be expected from current high school students within the next ten or twenty years.

THE DEVELOPMENT OF SCIENTIFIC METHOD—W. S. Fowler—*Pergamon*, 116 p., illus., paper, \$1.75. First of a new British series of original high-standard, low-priced textbooks, aimed at maximum dissemination, including rapid translation and simultaneous publication in French, German, Spanish and Russian.

THE DIAGNOSIS OF MINERAL DEFICIENCIES IN PLANTS BY VISUAL SYMPTOMS: A Colour Atlas and Guide—T. Wallace—*Chemical Pub. Co.*, 2nd ed., 125 p., 312 color plates, \$14.50. Provides reference useful to chemists, botanists, plant nutritionists and people in related fields, for recognizing the lack of plant nutrients in commonly grown and horticultural crops.

ETHIOPIA: Its People, Its Society and Its Culture—George A. Lipsky and others—*HRAF Press (Taplinger)*, 376 p., maps, \$8.75. Collection of authoritative material presenting the social values and the chief patterns of thought and behavior of the people of Ethiopia.

FLORA OF PERU—J. Francis MacBride—*Chicago Nat. Hist. Mus.*, 267 p., paper, \$4. Fieldiana: Botany, Vol. 13, Part V-B, No. 1.

FLUORIDE DRINKING WATERS—F. J. McClure, Ed.—*Nat. Inst. of Dental Research (GPO)*, 636 p., illus., paper, \$3.50. A selection of Public Health Service papers on dental fluorosis and dental caries, physiological effects, analysis and chemistry of fluoride.

FOUNDATION OF ANALYSIS—Edward J. Cogan—*Prentice-Hall*, 221 p., \$7.95. High school text stressing mathematical ideas and their relations to one another, in particular treats concepts needed to prepare the student for college calculus.

GROWING UP WITH UNICEF—Ritchie Calder—*Public Affairs Committee*, Pamphlet No. 330, 20 p., illus., paper, 25¢ direct to publisher, 22 E. 38th St., New York 16 N.Y. Tells what the U.N. is doing to help the children of the world.

HOW TO KNOW THE EASTERN LAND SNAILS—John B. Burch—*Brown, Wm. C.*, 214 p., illus. by author, \$3; paper, \$2.50. Pictured keys for determining the land snails of the United States occurring east of the Rocky Mountain Divide.

INTERMEDIATE RUSSIAN: Readings, Exercises and Grammar Review—Edmund Zawacki and Zbigniew Folejewski—*Prentice-Hall*, 179 p., \$4.50. Reading passages from prominent Russian authors, combine the study of Russian syntax and grammar with aesthetic appreciation of the literature.

ISOTOPIC EXCHANGE AND THE REPLACEMENT OF HYDROGEN IN ORGANIC COMPOUNDS—A. I. Shatenshtein, transl. from Russian by C. Nigel Turton and Tatiana I. Turton—*Consultants*, 308 p. \$19.50. Deals with the study of the structure and reactivity of organic compounds, the chemistry of isotopes, and the theory of acids and bases.

LABORATORY MANUAL AND STUDY GUIDE FOR ANATOMY AND PHYSIOLOGY—Edwin B. Steen—*Brown, Wm. C.*, 165 p., illus., paper, \$3.25. Presents basic principles of anatomy and physiology for each of the organ systems, in outline form with minimum of detail.

LEONARDO DA VINCI: Pathfinder of Science—Henry S. Gillette—*Watts, F.*, 168 p., illus. by author, \$1.95. Biography of Leonardo da Vinci as a scientist, for young people.

MACROMOLECULAR SPECIFICITY AND BIOLOGICAL MEMORY—Francis O. Schmitt, Ed.—*M.I.T. Press*, 119 p., \$3. Summarizes exploratory lecture series on the advances in biomolecular coding and its significance for a biochemical approach to the study of mental processes.

MAGNETISM AND VERY LOW TEMPERATURES—H. B. G. Casimir—*Dover*, 95 p., paper, \$1.25. Unabridged reprint (1940).

MAGNETOGASDYNAMICS AND PLASMA DYNAMICS—Shih-I Pai—*Springer (Prentice-Hall)*, 197 p., \$14. Theoretical introduction to plasma dynamics and magnetogas dynamics from the gasdynamic point of view.

MEN AND DECISIONS—Lewis L. Strauss—*Doubleday*, 468 p., photographs, \$6.95. Personal account by the former chairman of AEC of the decisions of top government officials and scientists concerning matters of state and defense between the end of World War II and 1959.

MINIATURE PLANTS FOR HOME AND GREENHOUSE—Elvin McDonald—*Van Nostrand*, 273 p., illus., \$5.95. Concerned primarily with true miniature plants that may be cultivated indoors.

MOUNTAINS—Delia Goetz—*Morrow*, 64 p., illus. by Louis Darling, \$2.75. Tells children how mountains are formed, where they are found and how they affect climate and rainfall.

NEPAL: The Discovery of the Malla—Giuseppe Tucci, transl. from Italian by Lovett Edwards—*Dutton*, 96 p., 60 photographs, \$5. A brief account of a journey in one of the least known areas of Nepal, about the discoveries made and their importance.

1001 QUESTIONS ANSWERED ABOUT EARTH SCIENCE—Richard M. Pearl—*Dodd*, 327 p., photographs, illus., \$6. Discusses, in convenient question-and-answer form, the physical features of the interior and exterior of the earth; extensive index and bibliography are included.

OUR SYNTHETIC ENVIRONMENT—Lewis Herber, introd. by William A. Albrecht—*Knopf*, 305 p., \$4.95. A non-technical, critical discussion of man's synthetic environment, the hazards of agricultural chemicals, food additives, insufficiently tested drugs, automobile exhausts, industrial pollutants and fallout.

PARENTS ASK—Frances L. Ilg and Louis Bates Ames—*Harper*, 425 p., \$5.50. Collection of parents' questions and expert suggestions in answer to their problems, grouped under such headings as giftedness, discipline, physical types, and interpersonal relations.

PHYSICAL ELECTRONICS—Curtis L. Hemenway, Richard W. Henry and Martin Caulton—*Wiley*, 396 p., diagrams, \$8.25. Text for a one-semester junior or senior level course for both electrical engineering and physics students.

PILE DRIVING BY ELECTROOSMOSIS—B. A. Nikolaev, transl. from Russian—*Consultants*, 62 p., illus., paper, \$12.50. Results of studies on the influence of factors speeding up the sinking of cathode piles through dense sand-clay soils.

PLANT TAXONOMY: Methods and Principles—Lyman Benson—*Ronald*, 494 p., illus., photographs, \$11.50. Places primary emphasis upon the dynamic application of taxonomic methods and principles, and the rules of nomenclature.

PROGRAMED LEARNING IN THE SCHOOLS: Tasks for 1962—George E. Probst, Ed., introd. by John H. Fischer—*Thomas Alva Edison Foundation*, 24 p., paper, single copies free upon request direct to publisher, 8 W. 40th St., New York 18, N. Y. A summary of a conference held by the Thomas Alva Edison Foundation and Grolier, Inc., in January 1962.

PROGRAMMED LEARNING AND COMPUTER-BASED INSTRUCTION—John E. Coulson, Ed.—*Wiley*, 291 p., illus., \$6.75. Proceedings of the Conference on Application of Digital Computers to Automated Instruction, October, 1961.

RADIATION PROTECTION IN MAMMALS—John F. Thompson—*Reinhold*, 212 p., \$7.75. Reviews progress made in studies with laboratory animals in the protection by thiols and other sulfur compounds, the mechanism of protective action and treatment of radiation injury.

REARING INSECTS IN SCHOOLS—R. E. Siverly—*Brown, Wm. C.*, 113 p., illus. by author, photographs, paper, \$2.75. Manual on materials and methods for rearing ants, crickets, grasshoppers, milkweed bugs and other insects.

RECENT ADVANCES IN BIOLOGICAL PSYCHIATRY, Vol. IV—Joseph Wortis, Ed.—*Plenum Press*, 383 p., illus., \$13.50. Proceedings of the 16th annual convention and scientific program of the Society of Biological Psychiatry, Atlantic City, 1961.

RIEDEL'S INDUSTRIAL CHEMISTRY—James A. Kent, Ed.—*Reinhold*, 963 p., illus., \$20. Provides a fundamental cross-section presentation of

current practices in chemical technology, covering the main segments of the chemical industry. Includes treatment of the chemical aspects of the pharmaceutical and nuclear industries.

SCIENTIFIC METHOD: Optimizing Applied Research Decisions—Russell L. Ackoff with Shiv K. Gupta and J. Sayer Minas—*Wiley*, 464 p., \$9.50. A book on "planning or designing the use of science in the pursuit of objectives," applies the methods of operations research to investigating the procedures of scientific inquiry.

SOME ASPECTS OF NEUROANATOMY—V. N. Ternovskii, transl. from Russian—*Consultants*, 183 p., illus., \$15. Collection of articles on the anatomy of the central and peripheral nervous system, including recent research into the conducting pathways of the brain.

SOVIET SPACE PROGRAMS: Organization, Plans, Goals and International Implications—*Committee on Aeronautical and Space Sciences, U. S. Senate (GPO)*, 399 p., illus., paper, \$1.25. Staff report.

SPACE SCIENCE—Ralph E. Lapp—*Am. Lib. Assn. (Public Affairs Committee)*, 52 p., paper, 60¢. Background essay surveying the subject in broad outlines.

SPICES: Their Morphology, Histology and Chemistry—John W. Parry—*Chemical Pub. Co.*, 226 p., illus., \$8.75. Provides information on the structure and chemical composition of spices, which are listed and described in alphabetical order for quick reference.

STATE AGRICULTURAL EXPERIMENT STATIONS: A History of Research Policy and Procedure—H. C. Knoblauch and others—*GPO*, 262 p., photographs, \$1.50. Documents and evaluates administrative and policy developments in the operations of the State agricultural experiment stations.

THE STORY OF COSMIC RAYS—Germaine and Arthur Beiser—*Dutton*, 126 p., illus. by Joseph M. Sedacca, \$2.95. Tells general reader what cosmic rays are, how they were discovered, and what effects they have on human beings.

STRATEGY AND STRUCTURE: Chapters in the History of the Industrial Enterprise—Alfred D. Chandler, Jr.—*M.I.T. Press*, 463 p., \$10. Analyzes the causes of the modern decentralized, multidivisional administrative structure as it has been developed independently by four giant companies in different industries.

A SURVEY OF PHYSICAL THEORY: (Formerly Titled: A Survey of Physics)—Max Planck, transl. by R. Jones and D. H. Williams—*Dover*, 117 p., paper, \$1.15. Unabridged republication.

TEACHING MACHINES—Benjamin Fine—*Sterling*, 176 p., illus., \$3.95. Explains how the new concepts and techniques of programmed learning can help make the learning process easier and more productive for both teacher and pupil.

TEXTILES AND FABRICS: Their Care and Preservation—A. J. Ernest Moss—*Chemical Pub. Co.*, 560 p., illus., \$6.95. Shows how speed, efficiency, and high quality in dry-cleaning plants can be achieved by the application of clear rules, techniques and processes.

UNSATURATED FATTY ACIDS IN ATHEROSCLEROSIS—J. Enselme, transl. by R. Crawford—*Pergamon*, 146 p., \$7.50. Monograph aimed at assessing carefully the results of research as to the value of improvements obtained in patients, and evaluating the biochemical aspect of responses in animal experiments.

UNDERSTANDING FOOD: The Chemistry of Nutrition—Beulah Tannenbaum and Myra Stillman—*McGraw*, 206 p., illus. by Bernice Myers, \$3.75. For young people.

THE WORKER IN AN AFFLUENT SOCIETY: Family Life and Industry—Ferdinand Zweig—*Free Press*, 268 p., \$4.50. A study of the modern British working class, based on interviews in five large industrial companies; tries to evaluate the changes in the quality of life achieved.

• Science News Letter, 82:12 July 7, 1962

ENGINEERING

Paper Honeycomb for Spherical Radomes

See Front Cover

➤ A GIANT honeycomb-like structure made of paper plays an important role in the Air Force's Ballistic Missile Early Warning System (BMEWS).

The pressed paper core seen on this week's front cover is being inspected by an engineer. It will be covered with glass fiber skins to make hexagonal panels for ground-based spherical radomes. Containing 1,646 panels, the radome can withstand winds up to 130 miles per hour.

Goodyear Aircraft Corporation, Akron, Ohio, has already installed one radome and the antenna it protects at a BMEWS site near Thule, Greenland.

• Science News Letter, 82:13 July 7, 1962

Questions

GENERAL SCIENCE—Who was the architect of the original National Academy building? p. 6.

MEDICINE—Which cancers are known as solid tumors? p. 3.

METEOROLOGY—How are hurricanes named? p. 11.

OCEANOGRAPHY—How much does the "deepsstar" weigh? p. 7.

PSYCHOLOGY—What types of pictures do babies seem to enjoy most? p. 9.

TECHNOLOGY—What uses have been made of negative ions? p. 5.

Photographs: Cover, Goodyear; p. 3, Harvard University; p. 5, Sperry Rand Corporation; p. 7, Westinghouse Electric Corporation; p. 10, U. S. Weather Bureau; p. 14, S. L. Hedden, C. M. Hansen, Michigan State University; p. 16 (top), John Oster Manufacturing Company; p. 16 (bottom), Science Service.

MICRO-ADS

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INDEPENDENT THINKERS—INVESTIGATE Humanism, the scientific personal philosophy! Ethical, humanitarian, nonpolitical, nonsupernatural. Free literature. American Humanist Association, Dept. SNL-1, Yellow Springs, Ohio.

MICROSLIDES: INSECTS, MARINE LIFE, Zoological Botanical, British Fresh Water Algae. Send for complete list. Free. Esbe Laboratory Supplies, 459 Bloor St., W., Toronto, Ontario, Canada.

NATIONAL GEOGRAPHIC MAGAZINES, 1888-1961, any issue. Periodical Service, Box 465-SN, Wilmington, Delaware.

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