

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.

ADAPTIVE CONTROL PROCESSES: A Guided Tour—Richard Bellman—*Princeton Univ. Press*, 255 p., \$6.50. Presents a unified approach to the modern field of control theory and provides technique for making problems involving deterministic, stochastic and adaptive processes amenable to machine solution.

ADAPTIVE CONTROL SYSTEMS—Eli Mishkin and Ludwig Braun, Jr., Eds.—*McGraw*, 533 p., \$16.50. Reports on recent advances in feedback control systems, with special emphasis on adaptive control systems.

CALCULUS OF VARIATIONS—A. R. Forsyth—*Dover*, 656 p., paper, \$2.95. Unabridged reprint of last English translation.

THE CELL NUCLEUS: Proceedings of the 1959 Meeting held at the University of Cambridge by the Faraday Society—J. S. Mitchell, Chmn.—*Academic*, 269 p., illus., \$11. Deals with the molecular architecture and the biochemistry of the nucleus without concern for practical applications.

THE CHANGING NATURE OF MAN: Introduction to a Historical Psychology (Metabletica)—J. H. Van den Berg, transl. from Dutch by H. F. Croes—*Norton*, 252 p., \$4.50. Dutch psychiatrist discusses how the relationships between parents and children have changed in the last 400 years, why maturation has become delayed, and the social aspects of neuroses.

CHEMISTRY, Vol. I—Chemical Bond Approach Committee, Laurence E. Strong, Ed.—*Chemical Bond Approach Project*, 2nd ed., 278 p., illus., paper, \$2.50. Revised new course in introduc-

tory chemistry, using the concept of chemical bonds as central theme.

CHEMISTRY FOR THE SAFETY MAN—Bureau of Labor Standards—*U. S. Dept. of Labor, Bull.* 222, 25 p., paper, single copies free upon request direct to publisher, Washington 25, D. C. Helps understand hazards presented by commonly used materials.

THE CHEMISTRY OF LIGNIN: Supplement Volume Covering the Literature for the Years 1949-1958—Friedrich Emil Brauns and Dorothy Alexandra Brauns—*Academic*, 804 p., illus., \$18. A critical review of ten years of international publications in the field.

THE COIL OF LIFE: The Story of the Great Discoveries in the Life Sciences—Ruth Moore—*Knopf*, 426 p., illus. by Patricia M. Jackson, photographs, \$5.95. Describes for the layman the great discoveries of the last 200 years about tissues, cells, chromosomes and the "tiny coil of DNA."

DELINQUENT AND NEUROTIC CHILDREN: A Comparative Study—Ivy Bennett—*Basic Bks.*, 532 p., \$10. Presents detailed psychological profiles of 100 boys and girls of both types studied during a three-year period at child guidance clinic.

THE FIRST 3000 YEARS: Ancient Civilizations of the Tigris, Euphrates and Nile River Valleys, and the Mediterranean Sea—C. B. Falls—*Viking*, 220 p., illus. by author, \$6. For young people.

FREE GRASS TO FENCES: The Montana Cattle Range Story—Robert H. Fletcher—*Univ. Pubs.*, 236 p., illus. by Charles M. Russell, \$12. The history of the Montana cattle industry from the early days of the fur traders to the 1959 Convention of the Montana Stockgrowers Association in Miles City.

FUNDAMENTALS OF PSYCHOLOGY: The Psychology of Thinking—Ernest Harms, Ed.—*N. Y. Acad. of Sciences, Annals*, Vol. 91, Art. 1, 158 p., paper, \$3. Conference papers on theoretical aspects and developmental problems of the psychology of thinking, and on the measurement and the creativity of thinking.

GRADUATE EDUCATION IN THE UNITED STATES—Bernard Berelson—*McGraw*, 346 p., \$6.95. Reviews the history of graduate study since its establishment at Johns Hopkins in 1876, presents detailed data on graduate education now available and recommendations.

A HISTORY OF THE UNITED STATES WEATHER BUREAU—Donald R. Whitnah—*Univ. of Ill. Press*, 267 p., \$6. The story of public services provided by this governmental organization since its inception in 1870.

INTRODUCTORY ALGEBRA: A College Approach—Milton D. Eulenberg and Theodore S. Sunko—*Wiley*, 290 p., \$4.95. Written specifically for college students who lack adequate preparation for college algebra.

MAMMALS OF WISCONSIN—Hartley H. T. Jackson—*Univ. of Wis. Press*, 504 p., 374 illus. and photographs, \$12. Reference work, systematically arranged, with complete descriptions

of each of the 84 kinds of mammals found in Wisconsin.

THE MEDITERRANEAN LANDS—D. S. Walker—*Wiley*, 524 p., photographs, \$6.75. Deals with the geography and economics of the countries with a coastline on the Inland Sea, such as Spain, Portugal, Italy, North Africa, the Balkan Peninsula, Turkey, the Levant, Israel, Egypt and Libya.

MODERN CHEMICAL PROCESSES, Vol. VI: A Series of Articles Describing Chemical Manufacturing Plants—D. Gray Weaver and others—*Reinhold*, 126 p., illus., \$6. Describes 17 recently developed processes, such as chemicals from wood, and catalyst manufacture.

THE NECESSITY FOR CHOICE: Prospects of American Foreign Policy—Henry A. Kissinger—*Harper*, 370 p., \$5.50. Deals with the dilemma of deterrence, limited war, the problems of arms control, and negotiations.

NEW AND NONOFFICIAL DRUGS, 1961—Council on Drugs of the American Medical Association—*Lippincott*, 849 p., \$4. Description of drugs evaluated on the basis of available laboratory and clinical evidence.

NORTH AMERICAN TREES (Exclusive of Mexico and Tropical United States)—Richard J. Preston Jr.—*Iowa State Univ. Press*, 2nd rev. ed., 395 p., illus., \$4.50. Handbook designed for field use, treats 135 genera containing 568 species.

OPEN VISTAS: Philosophical Perspectives of Modern Science—Henry Margenau—*Yale Univ. Press*, 256 p., illus., \$5. Physicist discusses probability, relativity and faith—problems common to both philosophy and science—and suggests that the progressive dynamism of recent physical science, when translated into moral and social terms, means the same as the word democracy.

PLASMA PHYSICS—James E. Drummond—*McGraw*, 386 p., illus., \$12.50. Systematic treatment of some of the special areas in plasma physics, such as quantum plasma physics, detailed statistical mechanics of plasmas, and aerodynamic aspects of magnetohydrodynamics.

PROPHET OF PROGRESS: Selections from the Speeches of Charles F. Kettering—T. A. Boyd, Ed.—*Dutton*, 252 p., \$5. Composites of inspirational utterances from the hundreds of speeches delivered in the course of forty years by the famous engineer, scientist and pioneer of industry.

RA'IVAVAE: An Expedition to the Most Fascinating and Mysterious Island in Polynesia—Donald Marshall—*Doubleday*, 301 p., illus. by James Scott, photographs by author, \$4.95. Anthropologist describes present aspects of life in a native community, 400 miles from Tahiti.

RIVAL THEORIES OF COSMOLOGY: A Symposium and Discussion of Modern Theories of the Structure of the Universe—H. Bondi and others—*Oxford Univ. Press*, 64 p., photographs, \$2.25. Provides the general reader with an introduction to current theories concerning the physical universe.

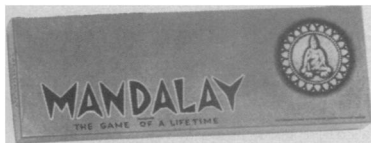
SCANDINAVIAN RESEARCH GUIDE: Directory of Research Institutions Within Technology and Science Exclusive of Life Sciences, Vols. I and II—*Scandinavian Council for Applied Research*, 687 p., 486 p., paper, \$10 per set. Concise and detailed information on more than 1,500 research institutes, universities and scientific societies in Denmark, Finland, Iceland, Norway and Sweden.

SCIENCE AND COMMON SENSE—James B. Conant—*Yale Univ. Press*, 344 p., paper, \$1.45. Reprint of 1951 edition, with new preface by author.

SMITHEONIAN INSTITUTION: Annual Report 1959—Leonard Carmichael, Secretary—*GPO*, 693 p., illus., \$3.75. Includes articles on transuranium elements, solar radio astronomy, mirages, rhythmic nature of animals and plants,



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and on the three Neanderthal skeletons from Shanidar Cave.

SOURCE BOOK OF HEALTH INSURANCE DATA 1960—*Health Insurance Inst.*, 2nd. ed., 80 p., paper, 25¢ direct to publisher, 488 Madison Ave., New York 22, N.Y. Current statistics on commercial health insurance coverage.

SYNTHESIS OF HETEROCYCLIC COMPOUNDS, Vols. 3 and 4—A. L. Mndzhoian Ed., transl. from Russian by A. E. Stubbs—*Consultants Bur.*, 156 p., \$6. Contains laboratory methods for the preparation of 30 different compounds of furan derivatives and methods of preparing compounds of other heterocyclic series.

THINKING MACHINES: A Layman's Introduction to Logic, Boolean Algebra and Computers—Irvin Adler—*Day*, 189 p., diagrams by Ruth Adler, \$4. Explains for the layman the working of electronic computers.

TOOLS FOR THE ASTRONOMER—G. R. Miczaka and William M. Sinton—*Harvard Univ. Press*, 294 p., illus., \$7.75. Discusses modern instrumentation for collecting, recording and analyzing light: photography, telescope optics, construction of telescopes, spectroscopy, instruments for solar research and radio telescopes.

UNDERSTANDING ARITHMETIC—Maytscherl W. Reckless—*Prentice-Hall*, 372 p., illus., \$3.76. Features illustrative exercises to facilitate gradual understanding of meaning and relationships.

UNDERWATER ACOUSTICS HANDBOOK—Vernon M. Albers—*Pa. State Univ. Press*, 290 p., illus., \$10. Reference work on the physical characteristics of the ocean medium, the generation and detection of underwater sound and acoustic measurement techniques.

THE UNITED NATIONS AND HOW IT WORKS—David Cushman Coyle, introd. by Hernane Tavares de Sa—*New Am. Lib.*, rev. ed., 222 p., paper, 50¢. Objective analysis of UN structure, problems, operations and accomplishments.

THE UNITED STATES POLITICAL SYSTEM AND HOW IT WORKS—David Cushman Coyle—*New Am. Lib.*, 152 p., paper, 50¢. Reprint, discusses also effects of Science on the Federal Government.

VICTORY OVER SPACE—Albert Ducrocq, transl. by Oliver Stewart—*Little*, 264 p., illus., \$4.95. Background to the astronautic aims, and analysis of U.S. and Russian scientific achievements in space.

VISUAL SPACE PERCEPTION—William H. Ittleson—*Springer Pub. Co.*, 212 p., \$6. Systematic discussion of the theory of perception, the visual space cues and special problems in visual space perception.

WELLSPRINGS OF LIFE—Isaac Asimov—*Abelard-Schuman*, 238 p., illus., \$3.75; *New Am. Lib.*, 200 p., illus., paper, 50¢. The story of life on earth, in the species, in the cell and in the living molecules.

WONDERS OF INVENTIONS—Mary Graham Bonner—*Lantern Press*, 128 p., illus. by Carol Cobbledick, \$2.95. Tells young readers about some great inventions.

• Science News Letter, 79:108 February 18, 1961

Questions

GEOPHYSICS—By how many feet is the equatorial diameter longer from certain points? p. 99.

PUBLIC HEALTH—How many countries reported cases of smallpox in January? p. 98.

Photographs: Cover, Lockheed; p. 99, Hughes Aircraft Company; p. 101, Branson Instruments, Inc.; p. 103, United Aircraft Corporation; pp. 106 and 107, U.S. Army; p. 111, ECKO Products Co.

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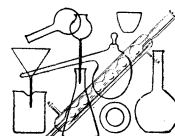
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