

books OF THE WEEK

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ANNUAL PROGRESS IN CHILD PSYCHIATRY AND CHILD DEVELOPMENT 1971—Stella Chess and Alexander Thomas, Eds.—Brunner/Mazel, 1972, 614 p., \$15. Selection of outstanding articles ranging from infancy studies, cognitive development, learning, to clinical psychiatry, problems of adolescence, and mental health services.

BIOMECHANICS: Its Foundations and Objectives—Y. C. Fung, N. Perrone and M. Anliker, Eds.—Prentice-Hall, 1972, 641 p., illus., \$16. Deals with four major aspects of current research—the objectives of biomechanics; basic mechanical properties of living tissues; biomechanics in physiology, medicine and surgery; and biomechanical aspects of injury and prosthesis.

COASTAL ZONE MANAGEMENT: Multiple Use With Conservation—J. E. Peel Brahtz, Ed.—Wiley, 1972, 352 p., photographs, diagrams, \$19.50. Reference volume, deals with aspects of goals and multiple-use conflicts, and treats the technological requirements, systems planning and engineering.

GERONTOLOGICAL PSYCHOLOGY—James H. Barrett, foreword by Theodore C. Kahn—Thomas, C. C., 1971, 165 p., \$8. Study of the developmental and psychological functioning of the older American in his later years, explores regressive and compensatory behavior, areas of strength and weakness, motivating forces, needs and levels of functioning.

GOLD AND SILVER IN THE WEST: The Illustrated History of an American Dream—T. H. Watkins—Am. West Pub. Co., 1971, 287 p., photographs, paintings, maps, \$17.50. Documented with many contemporary pictures, this history of the mining frontier covers a century of exploits in California, Oregon, Nevada and Colorado, Arizona, South Dakota and Alaska.

THE HYDRAULIC TRANSPORT OF SOLIDS BY PIPELINE—A. G. Bain and S. T. Bonnington—Pergamon Press, 1971, 251 p., illus., \$16. With emphasis on the interaction of the individual aspects of a hydraulic transport project, the books deals with transport of settling solids, flow of non-settling slurries, pumps, pipes and pipelines, recovery of solid material after transport, systems design and economics.

INVISIBLE ASTRONOMY—Colin A. Ronan—Lippincott, 1972, 173 p., photographs, diagrams, \$7.95. Discusses developments in the electromagnetic spectrum, visual observation, the visual universe, physics and the extension of the spectrum, radio astronomy, cosmic ray and particle astronomy, ultrashort-wave astronomy, the new universe and new problems.

MICROTECTONICS ALONG THE WESTERN EDGE OF THE BLUE RIDGE, MARYLAND AND VIRGINIA—Ernst Cloos—Johns Hopkins Press, 1972, 234 p., 85 plates, drawings, maps, \$12.50. When the Appalachians were folded the crystalline basement and Catoctin volcanics rose and crowded the sediments into long narrow folds. This study aims to determine the relationship of the basement structures to those in the overlying sedimentary rocks and their regional changes.

MODERN PRESTRESSED CONCRETE: Design Principles and Construction Methods—James R. Libby—Van Nostrand, 1971, 516 p., photographs, diagrams, \$18.95. Ready reference to every phase of prestressed concrete, from basic design and grounding to post-tensioning and the newest methods for connecting and erecting precast members.

1001 QUESTIONS ANSWERED ABOUT THE OCEANS AND OCEANOGRAPHY—Robert W. Taber and Harold W. Dubach, foreword by Richard H. Fleming—Dodd, 1972, 269 p., photographs, \$7.50. Based on systematic observations and measurements, the book gives concise descriptive information in answer to questions about what, where, when and who in regard to oceans.

PHYSICAL COSMOLOGY—P. J. E. Peebles—Princeton Univ. Press, 1972, 282 p., diagrams, paper, \$9. Introduces the elements of classical cosmology, and deals in detail with such separate topics as isotropy of the universe, Hubble's constant, the mean mass density of the universe, primeval fireball hypothesis, the history of the universe, and primeval helium.

THE PHYSICS OF PULSARS—Allen M. Lenchek, Ed.—Gordon & Breach, 1972, 173 p., illus., \$14.50. Series of lectures discussing radio, optical and X-ray observations of pulsars, interstellar cloud properties, distances, rotating neutron stars, magnetosphere theory of pulsar electrodynamic, and the origin of cosmic rays.

PICTURE BANDWIDTH COMPRESSION—Thomas S. Huang and Ohl J. Tretiak, Eds.—Gordon & Breach, 1972, 734 p., photographs, diagrams, \$49. Papers of 1969 Symposium Proceedings deal with the components of a picture transmission system, their interrelation, problems of optimizing a system, new picture redundancy reduction techniques, and experiments in coding color pictures.

PSYCHOTROPIC DRUGS IN THE YEAR 2000: Use by Normal Humans—Wayne O. Evans and Nathan S. Kline, Eds.—Thomas, C. C., 1971, 168 p., \$7.75. Findings of a Study Group panel of the American College of Neuropsychopharmacology. Objectively discussed are the physiological, biochemical and psychological effects of mind-altering chemicals, and the kinds of drugs we are technically capable of producing. Closes with analysis of the possible social effects of this capability.

RECENT TOPICS IN MASS SPECTROMETRY—Rowland Ivor Reed, Ed.—Gordon & Breach, 1971, 357 p., diagrams, tables, \$29.50. These NATO Institute lectures cover many branches of mass spectrometry, from metastable ions, and mass spectrometry of ferrocenes and related complexes, through photoelectron spectroscopy, to industrial applications of mass spectrometry.

RUBBER TECHNOLOGY AND MANUFACTURE—C. M. Blow, Ed.—CRC Press, 1972, 527 p., photographs, diagrams, tables, \$39.90. Authoritative reference presents general outline of rubber technology, the physics of raw and vulcanized rubbers, raw polymeric materials, vulcanization, materials for compounding and reinforcement, processing technology, manufacturing techniques and testing procedures.

SCIENCE: Servant or Master?—Hans J. Morgenthau—New Am. Lib. (Norton), 1972, 153 p., \$6.95. Examines the meaning of science to modern man and its effects on contemporary politics.

SCIENCE AND POLITICS IN CANADA—G. Bruce Doern—McGill-Queen's Univ. Press, 1972, 238 p., \$12.50. Annotated study, describes and evaluates the complex organizational interagency and behavioral relationships that characterize the main science policy structures in Canada, and explores their association with governmental, academic and industrial sectors of the scientific community.

SITE PLANNING—Kevin Lynch—M.I.T. Press, 1972, 2nd ed., 384 p., photographs, sketches by author, \$10. Completely revised and reorganized reference work on the art of site planning, develops more systematically the original idea of environmental design as a continuous process involving many participants.

THE SPINAL CORD: Basic Aspects and Surgical Considerations—George Austin, Ed.-in-Chief—Thomas, C. C., 1972, 2nd ed., 762

p., photographs, drawings, \$48.50. Revised and enlarged reference volume with new contributions on vascular disease, anterior cervical discectomy and fusion, neuropharmacology, percutaneous cordotomy, and edema of the spinal cord.

TEACHING SCIENCE IN AUSTRALIAN SCHOOLS—Kwong Lee Dow—Melbourne Univ. Press (Int'l Scholarly Bk. Serv.), 1971, 120 p., paper, \$4. Gives an account of the state of learning and teaching science at the start of the seventies, describes recent changes, trends, and evaluates the effectiveness of science teaching in Australia.

THEORY OF THE UNMAGNETIZED PLASMA—David C. Montgomery—Gordon & Breach, 1971, 400 p., diagrams, \$17.50. Based on a series of lectures intended as a survey of basic plasma theory as understood in 1970, from macroscopic variables and moment equations to kinetic theory of the unstable plasma.

WATER POLLUTION MICROBIOLOGY—Ralph Mitchell, Ed.—Wiley-Interscience, 1972, 416 p., illus., \$19.50. Brings together 17 articles in which modern microbiological concepts are applied to the solution of problems in water pollution control. Intended to stimulate interest in the study of the microbial ecology of polluted waters among both biologists and engineers.

TEXTBOOKS

COMPUTERS: A Systems Approach—Ned Chapin—Van Nostrand, 1971, 686 p., photographs, diagrams, \$13.95. Text for one-term or two-term course, offers the computer user a balanced treatment of computer software, computer hardware, and ways they can be used most effectively as a tool.

THE DYNAMIC EARTH: Textbook in Geosciences—Peter J. Wyllie—Wiley, 1971, 416 p., diagrams, maps, \$17.50. For senior undergraduates or graduates, provides global overview of the whole earth, and treats in 15 chapters such topics as surface features, geological processes and geological time scale, composition of earth's crust, magma generation, and plate tectonics.

FIELD-EFFECT ELECTRONICS—W. Gosling, W. G. Townsend and J. Watson—Wiley-Interscience, 1971, 364 p., illus., \$22. Written for final year undergraduate or graduate students, text covers the theory and applications of field effect transistors. Both junction and insulated gate transistors are given intensive coverage.

INTRODUCTION TO MATERIALS SCIENCE—A. G. Guy with others—McGraw-Hill, 1972, 604 p., illus., \$16.50. Textbook for students in engineering, the physical and the biological sciences; deals with the nature and behavior of metals, ceramics and polymers, compares the characteristics of these materials, and treats deformation, fracture and deterioration of materials.

INTRODUCTION TO THE FINITE ELEMENT METHOD: A Numerical Method for Engineering Analysis—Chandrakant S. Desai and John F. Abel—Van Nostrand Reinhold, 1972, 477 p., illus., \$18.50. Comprehensive introductory treatment of the method's fundamental theory, assumptions, advantages, limitations and applications.

INTRODUCTION TO THE THEORY OF SOLID STATE PHYSICS—James D. Patterson—Addison-Wesley, 1971, 388 p., diagrams, \$14.50. Text for graduate course, emphasizes fundamentals, covers crystalline structure, electrons in crystals, phonons, magnetism in solids, the interaction of phonons and electrons, dielectrics, and superconductivity.

INTRODUCTORY CONCEPTS OF BIOLOGY—George C. Becker—Macmillan, 1972, 335 p., photographs, diagrams, \$8.50. Short text presents the basic concepts of modern biology with technical accuracy and conciseness suitable for a one-term course.