

Books of the Week

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ADVANCES IN ELECTRONIC CIRCUIT PACKAGING, Vol. 5—Lawrence L. Rosine, Ed.—Plenum Press, 297 p., illus., \$15. Expert reports cover the field, from encapsulating with loose microballoons to designing a high-voltage power supply for a space radar system.

CARDANO: The Gambling Scholar—Oystein Ore, with a translation from Latin of Cardano's book on Games of Chance by Sidney Henry Gould—Dover, 249 p., illus., paper, \$1.60. Reprint (1953), contains biography of the Renaissance physician-mathematician and his notes on the subject of chance and probability.

CATERPILLARS AND HOW THEY LIVE—Robert M. McClung—Morrow, 64 p., illus. by author, \$2.75. Will teach the child to recognize varieties of caterpillars and cocoons.

CHEMICAL ENERGY—Laurence E. Strong and Wilmer J. Stratton—Reinhold, 115 p., diagrams, paper, \$1.95. Undergraduate level treatment of the application of the concepts of energy and entropy to the interpretation of chemical change.

COMPUTER ANALYSIS METHODS IN DYNAMICS as Applied to Stress Waves and Spherical Cavities—Norman Davids and Pravin Mehta—Pa. State Univ. College of Engineering, 66 p., diagrams, paper, \$2. Describes method incorporating the governing physical laws directly into computer programs to produce dynamics changes, thus bypassing differential equations.

COSMIC RAYS—D. V. Skobel'tsyn, Ed., transl. from Russian—Consultants, 254 p., illus., paper, \$27.50. On certain results of cosmic-ray studies conducted with Soviet satellites, experimental data on extensive air showers, search for photons and other cosmic ray investigations.

DEITIES AND DOLPHINS: The Story of the Nabataeans—Nelson Glueck—Farrar, Straus, 650 p., photographs, maps, \$15. Presents the results of the author's archaeological discoveries in present-day Transjordan, the excavation of the Nabataean temple of Khirbet Tannur, piecing together the evidence of the Hellenistic-Semitic cultures in the Near East during the first centuries B.C. and A.D.

DEVELOPMENTS IN APPLIED SPECTROSCOPY, Vol. 4—Elwin N. Davis, Ed.—Plenum Press, 546 p., illus., \$18.50. Proceedings of 1964 Mid-America Spectroscopy Symposium, covering such subject areas of spectroscopy as infrared and Raman, ultraviolet and visible, gas chromatography, NMR, emission, flame and atomic absorption spectroscopy.

THE DIVIDED SELF: An Existential Study in Sanity and Madness—R. D. Laing—Penguin Bks., 218 p., paper, 95¢. With the help of case studies of schizophrenic patients the author makes the process of going mad comprehensible.

ELECTROMAGNETIC THEORY: A Critical Examination of Fundamentals, Vols. I and II—Alfred O'Rahilly, foreword by A. W. Conway—Dover, 884 p., paper, \$2.25 each; two-vol. set \$4.50. First published in 1938, titled *Electromagnetics*.

ELECTRONIC COMPUTERS—S. H. Hollingdale and G. C. Toofill—Penguin Bks., 336 p., photographs, diagrams, paper, \$1.65. Explains how computers work, how problems are presented to them, and what sort of jobs they can tackle. Analog and digital computers are compared and recent syntheses of the two techniques described.

THE ESSENTIALS OF MODERN MATHEMATICS—Alfred Balmer and Sheila Slade—Washington Square Press, 179 p., illus., paper, 75¢. Practical guide written by professional teachers.

EUROPEAN ORGANIZATION FOR NUCLEAR RESEARCH: Annual Report 1964—Victor F. Weisskopf, Dir.-Gen.—CERN, 174 p., illus., paper, single copies free upon request direct to CERN, 1211 Geneva 23, Switzerland. Tenth annual report presenting the Council's scientific achievements in high energy physics through international cooperative research.

GNOMES OF THE NIGHT: The Spadefoot Toads—Arthur N. Bragg, foreword by Hobart M. Smith—Univ. of Pa. Press, 127 p., photographs, maps, \$4.50. An unusually readable scientific account of a little known yet prevalent group of amphibians in their natural habitat, stressing the scientist's thinking processes and pitfalls on the path to induction of sound conclusions contingent on many variables.

THE GOLDEN EAGLE—Robert Murphy—Dutton, 157 p., illus. by John Schoenherr, \$3.95. Follows the exciting life story of a female golden eagle, with detailed scientific observations.

HELPING YOUR CHILD DEVELOP HIS POTENTIALITIES—Ruth Strang—Dutton, 256 p., \$4.50. Suggestions for bringing out the best in children, in the gifted as well as in the limited, the author discusses in turn intellectual and creative potentialities, educational, vocational, emotional and social potentialities and their development.

INTRODUCTION TO PHYSICS—A. Kitagorodsky, transl. from Russian by O. Smith—Dover, 719 p.,

paper, \$3. An up-to-date, comprehensive account of principles of theoretical physics and their uses.

AN INTRODUCTION TO THE USE OF GENERALIZED COORDINATES IN MECHANICS AND PHYSICS—William Elwood Byerly—Dover, 118 p., paper, \$1.35. Reprint (1916).

LABORATORY ANIMALS, IV: Graduate Education in Laboratory Animal Medicine, Proceedings of a Workshop—Thomas B. Clarkson, Chmn.—NAS-NRC, 36 p., paper, \$1.25. Discussion of educational program, personnel needs and formal training in laboratory animal medicine.

LABORATORY ANIMALS, V: Workshop in Animal Technician Training—L. R. Christensen, Chmn.—NAS-NRC, 57 p., paper, \$1.50. Reports on existing programs and aids for animal technicians and the types and extent of training needed for junior and senior technicians.

LEONARDO DA VINCI—Jay Williams and Editors of *Horizon Magazine*, Bates Lowry, Consultant—Am. Heritage Pub. Co. (Harper), 153 p., illus., \$3.95. Depicts the 15th century artist as engineer, inventor, scientist and universal man.

MATHEMATICS AND PHILANTHROPY—Warren Weaver—Alfred P. Sloan Foundation, 30 p., diagrams, paper, single copies free upon request direct to publisher, 630 Fifth Ave., New York, N.Y. 10020. A lucid and readable interpretation of the practical value of mathematics and its fundamental importance to man.

METEOROLOGICAL DROUGHT—Wayne C. Palmer—Weather Bureau (GPO), 58 p., paper, 40¢. Presents a numerical approach to the problem permitting an objective evaluation of the climatological events.

OCEANOGRAPHY—Warren E. Yasso—Holt, 176 p., illus., \$2.50; paper, \$1.28. Describes on the advanced high school or undergraduate college level the potential and progress of deep-sea oceanography, using throughout the metric system of measurement units with English system equivalents.

ON THE TRACK OF UNKNOWN ANIMALS—Bernard Heuvelmans, transl. and abridged by Richard Garnett—Hill & Wang, 306 p., illus. by Monique Watteau, photographs, maps, \$5. Belgian zoologist searching the continents for traces of extinct or undiscovered species.

PHOTOSYNTHESIS: The Basic Process of Food-making in Green Plants—Jerome L. Rosenberg—Holt, 126 p., illus., \$2.50; paper, \$1.28. Shows beginning science students how progress has been made in applying concepts of physics and chemistry to the problem of photosynthesis.

PRIMATE BEHAVIOR: Field Studies of Monkeys and Apes—Irven DeVore, Ed.—Holt, 654 p., illus., maps, \$10. Result of multidisciplinary research group systematically surveying the results of recent long-term field studies, comparing the social organization of different primate species.

PROGRAMMED UNITS IN CHEMISTRY—Virginia P. Powell—Prentice-Hall, 186 p., paper, set of 5 books, \$2.36. Individual units are: *Chemical Symbols*, 31 p., 36¢; *Chemical Formulas and Names*, 62 p., 56¢; *Molecular Weight Calculations*, 48 p., 52¢; *Weight and Volume Relationships*, 38 p., 48¢; *Balancing Chemical Symbols*, 69 p., 60¢.

SOCIOLOGY AND THE MILITARY ESTABLISHMENT—Morris Janowitz with Lt. Col. Roger Little—Russell Sage Foundation, rev. ed., 136 p., paper, \$1.50. Revision of bulletin prepared in 1959 by the American Sociological Association.

SOILS IN RELATION TO CROP GROWTH—Firman E. Bear—Reinhold, 297 p., illus., \$12.50. Broad, semi-technical survey of soil science, considering each of the essential soil-derived elements in detail, including trace elements.

THE STORY OF LANGUAGE—Mario Pei—Lippincott, rev. ed., 491 p., \$7.50. Completely revised introduction to linguistic studies, includes two new chapters, a discussion of the names by which countries and peoples call themselves, the other on the connection of words with the mental processes of both the individual and the social group.

THE SUCCESSFUL INVENTOR'S GUIDE—K. O. Kessler and Norman Carlisle—Prentice-Hall, 224 p., \$5.95. Tells how to develop, protect and sell your inventions.

THERMODYNAMICS OF MULTICOMPONENT SYSTEMS—Bruce H. Sage—Reinhold, 366 p., \$18.50. Generalized modern treatment of multicomponent systems, illustrating the relationships derived with a number of numerical examples.

VIRUSES, CELLS AND HOSTS: An Introduction to Virology—M. Michael Sigel and Ann R. Beasley—Holt, 175 p., illus., \$2.50; paper, \$1.28. Gives an understanding of the position of viruses among living things, not merely agents of disease but powerful regulators and modifiers of life processes in the cell.

• Science News Letter, 88:140 August 28, 1965

GENERAL SCIENCE

'Cancer File' Has Record Of All Compounds Tested

► A "CANCER FILE" of information on more than 130,000 chemical compounds that have been tested for activity against the dread disease is now being stored in a computer.

The information on each chemical will include a computer representation of the way its atoms are joined, names by which it may be known and references to it in the chemical literature.

The Chemical Abstracts Service, Columbus, Ohio, will set up and operate the file under a contract with the National Cancer Institute of the U.S. Department of Health, Education and Welfare. The records will allow the Institute to determine quickly whether a chemical has ever been screened for activity against cancer. Information on new chemicals will also be registered.

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PUBLIC HEALTH

Which Kills the Most: Smoking or Overweight

► WHICH IS PREFERABLE, to die of lung cancer or heart disease from smoking cigarettes or from one of the ailments brought on by overweight?

A puzzled Columbus, Ohio, doctor asks what the statistical advantages are of smoking versus overweight. Put another way, this practitioner was wondering how much weight a person would have to gain to offset the increased life expectancy of the nonsmoker.

Dr. Warren W. Smith poses his question in the *Journal of the American Medical Association*, Aug. 23, 1965, and receives different answers from each of three widely known medical authorities.

Dr. Jean Mayer of the department of nutrition, Harvard School of Public Health, Boston, replies that it is "quite advantageous to stop smoking cigarettes even at the risk of gaining some weight." She quotes statistics estimating that it would take a weight gain of more than 120 pounds to offset the effect of longevity of smoking two packs of cigarettes a day.

Dr. Abraham Kagan of Honolulu, who participated in a recent Framingham, Mass., heart study, said that although he could not give Dr. Smith a precise mathematical answer, it seemed clear that the potential disadvantages of increased blood pressure and of increased illness from diabetes and angina pectoris associated with overweight are far outweighed by the potential benefits of decreased illness and death from heart attacks and lung cancer to be derived from stopping smoking.

Dr. Stanley Schor, director of the AMA department of biostatistics, said simple questions such as the one Dr. Smith asked are often the most difficult to answer. He pointed out that the prudent man would not allow himself to gain weight when giving up cigarettes.

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