

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.

ABNORMAL PSYCHOLOGY—Walter J. Coville, Timothy W. Costello and Fabian L. Rouke—*Barnes & Noble*, 298 p., paper, \$1.75. Outline summary on types, causes and treatment of mental illness.

ADVANCES IN CATALYSIS AND RELATED SUBJECTS, Vol. XII—D. D. Eley, P. W. Selwood and Paul B. Weisz, Eds.—*Academic*, 324 p., \$11. Discusses surface bond, magnetic resonance, electron theory and molecular specificity in physical adsorption.

AGING: Some Social and Biological Aspects—Nathan W. Shock, Ed.—*Am. Assn. for the Advancement of Science*, 427 p., illus., \$8.50. Symposia presented at Chicago meeting of the AAAS, December 1959.

ALL ABOUT BEGONIAS—Bernice Brilmayer, foreword by Clarence Hall—*Doubleday*, 223 p., illus., \$4.95. How to select, grow, propagate the many varieties of begonias.

THE AMERICAN CIVIL ENGINEER: Origins and Conflict—Daniel Hovey Calhoun—*Technology Press (Harvard Univ. Press)*, 295 p., map, \$5.50. Scholarly survey of the engineer's tasks and the profession's historical growth from the late 1700's through the 1840's.

AN ANNOTATED BIBLIOGRAPHY OF INFLUENZA, Vol. I, No. 1—Medical Documentation Service—*AIBS*, 20 p., \$2. To be published quarterly; references to articles on influenza and related subjects published in the United States and abroad.

APPARATUS DRAWINGS PROJECT (AAPT-AIP), Vol. I—Robert G. Marzley, Ed.—*Plenum Press*, 30 drawings in cardboard case, \$40. Presents physics teachers and laboratory workers with complete data and drawings for apparatus developed in the physics laboratories of leading U. S. colleges and universities.

ARITHMETIC FOR THE MODERN AGE—Aaron Bakst—*Van Nostrand*, 341 p., \$4.95. Concise treatment designed for the busy adult who seeks proficiency for practical use.

ASEXUAL PROPAGATION AND REGENERATION—

M. A. Vorontsova and L. D. Liosner, transl. from Russian—*Pergamon*, 489 p., illus., \$12. Russian specialists in regeneration research present processes of asexual reproduction, physiological and reparative regeneration in separate animal groups.

ASPECTS OF THE ORIGIN OF LIFE—M. Florin, Ed.—*Pergamon*, 199 p., illus., \$5. Articles of interest to the layman and scientist working in other fields, selected from Symposium on the Origin of Life on Earth, held in Moscow.

BIBLIOGRAPHY OF BOOKS FOR CHILDREN, 1960—*Assn. for Childhood Educ.*, 134 p., paper, \$1.50. Suggests quality books for ages four to twelve, listed by subjects, including science.

BIBLIOGRAPHY OF MEDICAL REVIEWS, Vol. 5, 1960—National Library of Medicine—*GPO*, 232 p., paper, \$1.25. Lists by subject and author 2,382 review articles selected from some 5,000 periodicals received during 1959.

THE BIOLOGICAL EFFECTS OF ATOMIC RADIATION: Summary Reports 1960—National Academy of Sciences—*Nat. Acad. of Sciences-Nat. Res. Council*, 90 p., paper, free upon request direct to publisher, 2101 Constitution Ave., Washington 25, D. C. Also available, 19-page Report to the Public.

CALCULUS WITH ANALYTIC GEOMETRY—Thurman S. Peterson—*Harper*, 586 p., \$7.50. Revised text of "Analytic Geometry and Calculus," provides material for three-semester introductory course.

CARDIOVASCULAR EFFECTS OF NICOTINE AND SMOKING—Carl J. Wiggers, Chmn.—*N. Y. Acad. of Sciences, Annals* Vol. 90, Art. 1, 344 p., illus., paper, \$4. Discusses research investigating the possible deleterious effect of smoking on the heart and blood vessels.

CAREERS AND OPPORTUNITIES IN SCIENCE: A Survey of All Fields—Philip Pollack, introd. by Harlow Shapley—*Dutton*, rev. ed., 194 p., illus., \$3.95. Describes the work of men and women engaged in scientific research, with practical information for young people.

CHEM STUDY NEWSLETTER, Vol. I, No. 1—Lloyd E. Malm, Ed.—*Chemical Education Material Study*, 4 p., quarterly, free upon request direct to publisher, Rm. 457 West Hall, Harvey Mudd College, Claremont, Calif. Describes progress made in a high school chemistry curriculum study, with Glenn T. Seaborg as chairman of Steering Committee.

CULTURE IN HISTORY: Essays in Honor of Paul Radin—Stanley Diamond, Ed.—*Columbia Univ. Press*, 1,014 p., illus., \$15. Anthropological essays by 52 distinguished scholars, with bibliography of writings by Paul Radin.

DAWN IN A DUCK BLIND: A Guide to the Calls of Waterfowl—Peter Paul Kellog and Arthur A. Allen—*Cornell University Records*, 33½ RPM record, \$5.95. Produced from recordings made for Cornell Library of Natural

Sounds with commentary on mallard voices for practicing duck calls.

THE DOUBLE PLANET—Isaac Asimov—*Abelard-Schuman*, 158 p., illus. by John Bradford, \$3. The story of how man has probed the secrets of earth and moon, with useful appendix of facts.

EDUCATION DIRECTORY 1960-1961, Part 3: Higher Education—Theresa Birch Wilkins—*Office of Education (GPO)*, 209 p., paper, 75¢. Lists U.S. institutions of higher education by type of program and by state.

ELEMENTS OF CALCULUS—Thurman S. Peterson—*Harper*, 2nd ed., 519 p., \$6.50. Includes new chapter on solid analytic geometry.

ELEMENTS OF MASER THEORY—Arthur A. Vuylsteke—*Van Nostrand*, 362 p., \$9.50. Basic guide to the physical theories fundamental in maser operation.

ELEPHANT BILL—J. H. Williams—*Viking*, 250 p., illus., paper, \$1.45. Reprint of elephant manager's story about the training of work elephants in Burma.

ENERGY IN THE AMERICAN ECONOMY, 1850-1975: An Economic Study of Its History and Prospects—Sam Schurr and Bruce Netschert with others—*Johns Hopkins Press for Resources for the Future*, 774 p., illus., \$12.50. Comprehensive study of energy's role, past and future, in the U. S. economy.

FLYING SAUCERS AND THE U. S. AIR FORCE—Lt. Colonel Lawrence J. Tacker—*Van Nostrand*, 164 p., illus., \$3.50. Documented story of findings and investigations conducted by the Air Force concerning unidentified flying objects.

THE FOUNDATIONS OF SCIENCE—Sheldon J. Lachman—*Vantage*, 2nd rev. ed., 121 p., \$2.95. Outlines fundamental axioms of science, operating conceptions of science, and scientific method.

THE GOLDEN BOOK OF CHEMISTRY EXPERIMENTS: How to Set Up a Home Laboratory, Over 200 Simple Experiments—Robert Brent—*Golden Press*, 112 p., illus. by Harry Lazarus, \$1.95. Picture-book style introduction to experimenting.

GOVERNANCE OF COLLEGES AND UNIVERSITIES—John J. Corson—*McGraw*, 209 p., \$5.50. Inquiry into the way U. S. colleges and universities are run and how their governing practices may have to be adapted to meet the future demands on higher education.

HAMMOND'S WORLD TRAVELOG—Editorial Staff—*Hammond*, 256 p., 560 photographs, maps, \$7.50. Takes the armchair traveler to cities and historic sites of five continents.

HANDBOOK OF CHEMISTRY AND PHYSICS: A Ready-Reference Book of Chemical and Physical Data—Charles D. Hodgman, Robert C. Weast and Samuel M. Selby, Eds.—*Chemical Rubber Pub. Co.*, 42nd ed., 3,481 p., \$12. Current scientific data in concise form.

HANDBOOK OF PALEONTOLOGY FOR BEGINNERS AND AMATEURS, Part I: The Fossils—Winifred Goldring—*Paleontological Research Institute*, 394 p., illus., paper, \$3. Useful college text on fossils, republished.

HANDBOOK ON BIOLOGICAL CONTROL OF PLANT PESTS—Cynthia Westcott, Ed.—*Brooklyn Botanic Garden*, 97 p., illus., paper, \$1. About aphid enemies, microbial insecticides, insect eradication by sterilized males, with illustrated list of insect friends.

HUNTING THE DESERT WHALE: Personal Adventures in Baja California—Erle Stanley Gardner—*Morrow*, 208 p., photographs, \$6. About hunting the gray whale with the camera in its winter breeding ground, Scammon's Lagoon.

HURRICANES, TORNADOES AND BLIZZARDS—Kathryn Hitte—*Random House*, 82 p., illus. by Jean Zallinger, \$1.95. Easy-to-read science book for young child.

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IDEAS, INERTIA AND ACHIEVEMENT—F. B. Turck—*Am. Soc. of Mechanical Engineers*, 183 p., \$5. U. S. and Western European chief executives, scientists and engineers offer a set of suggestions to overcome the apparent lag between original scientific discovery and engineering application in a free enterprise system.

IMPROVING SCIENCE AND MATHEMATICS PROGRAMS IN AMERICAN SCHOOLS: A Report—Joint Commission on the Education of Teachers of Science and Mathematics—*Am. Assn. for the Advancement of Science*, 41 p., paper, free upon request direct to publisher, 1515 Mass. Ave., Washington 5, D. C. Issued jointly with American Association of Colleges for Teacher Education.

INORGANIC SYNTHESIS, Vol. VI—Eugene G. Rochow, Ed.—*McGraw*, 272 p., \$7.75. Covers a wide variety of substances, from active metals to isotopically labeled acids.

AN INTRODUCTION TO HOMOLOGICAL ALGEBRA—D. G. Northcott—*Cambridge Univ. Press*, 282 p., \$8.

THE LIFE OF SCIENCE: Essays in the History of Civilization—George Sarton, introd. by Conway Zirkle—*Indiana Univ. Press*, 197 p., paper, \$1.50. Reprint of 1948 edition.

LIFE UNDER THE PHAROHS—Leonard Cottrell—*Holt, Rinehart & Winston*, 255 p., photographs, \$5. Deals with the daily life, houses and craftsmen of Ancient Egypt.

LINEAR CIRCUITS, Part 1: Time-Domain Analysis. Part 2: Frequency-Domain Analysis—Ronald E. Scott with Martin W. Essigman—*Addison-Wesley*, 510 p., 417 p., \$6.75 each. Presents the methods of linear circuits as a solid foundation of electrical engineering.

MAN, RACE AND DARWIN—Philip Mason, Ed.—*Oxford Univ. Press*, 151 p., \$2.90. Papers read at Joint Conference of the Royal Anthropological Institute and the Institute of Race Relations, London, 1959.

A MANUAL OF SPHERICAL AND PRACTICAL ASTRONOMY, Vol. I: Spherical Astronomy. Vol. II: Theory and Use of Astronomical Instruments—William Chauvenet—*Dover*, 708 p., 631 p., illus., paper, \$2.75 each. Unabridged reprint of fifth revised edition.

MENTAL DRUGS: Chemistry's Challenge to Psychotherapy—O. A. Battista—*Chilton Co.*, 155 p., \$3.95. A chemist's presentation of the role of drugs in the fight against mental illness.

MINORITY GROUP AND CLASS STATUS AS RELATED TO SOCIAL AND PERSONALITY FACTORS IN SCHOLASTIC ACHIEVEMENT—Martin Deutsch—*Soc. for Applied Anthropology*, 32 p., paper, \$1.50. Detailed study of educational experiences in an urban lower-class Negro school.

MORPHOLOGY, CLASSIFICATION AND LIFE HABITS OF THE PRODUCTOIDEA (BRACHIOPODA)—Helen Muir-Wood and G. Arthur Cooper—*Geological Soc. of Am.*, 447 p., 135 plates, \$16.75. Systematic descriptions of all genera, ranging from Lower Devonian to Upper Permian, a span of about 125 million years.

NEBRASKA SYMPOSIUM ON MOTIVATION, 1960—Marshall R. Jones, Ed.—*Univ. of Neb. Press*, 268 p., \$4.25; paper \$3.25. Papers and comments.

ON THERMONUCLEAR WAR—Herman Kahn—*Princeton Univ. Press*, 651 p., \$10. Discusses the deterrence and waging of thermonuclear "Central Wars" between the U.S. and U.S.S.R., comparing some of the alternatives and some of the implications in these choices.

AN OUTLINE IN CLASSICAL GENETICS—Bernard S. Straus—*Saunders*, 188 p., illus., \$5. Gives an account of the chemical nature and behavior of the hereditary unit.

PALEOGENEOLOGIC MAPS—A. I. Levorsen—*Freeman*, 174 p., illus., \$6. Demonstrates how these maps are made and how they may be used by

geologists interested in the history of sedimentary rock sequences.

A PICTORIAL ARSENAL OF AMERICA'S COMBAT WEAPONS—Will Eisner, introd. by Maj. Gen. J. B. Medaris—*Sterling*, 128 p., 200 photographs, \$3.95. Brief reference to operational weapons of the U. S. Armed Forces.

THE PROBLEM OF ACUTE HYPOTHERMIA—P. M. Starkov, Ed., transl. from Russian by R. E. Hammond—*Pergamon*, 319 p., illus., \$12. Experimental results showing the state of the central nervous system, gas exchange, respiration and circulation in animals subjected to excessive cooling.

THE PSYCHOLOGY OF CHARACTER DEVELOPMENT—Robert F. Peck with Robert J. Havighurst—*Wiley*, 267 p., \$6.50. Deals with the development of moral character in a group of typical American children.

RIGHTS AND WRITERS: A Handbook of Literary and Entertainment Law—Harriet F. Pipel and Theodora S. Zavin—*Dutton*, 384 p., \$7.50. Authoritative treatment of libel, privacy, copyright, protection of ideas, contracts and censorship.

SATELLITES IN OUTER SPACE—Isaac Asimov—*Random House*, 79 p., illus. by John Polgreen, \$1.95. Facts about man-made satellites for the beginning reader.

SCIENCE PONDERERS RELIGION—Harlow Shapley, Ed.—*Appleton*, 308 p., \$5. Eighteen essays by scientists, examining the function of a belief in matters spiritual in an age of science.

SCIENTIFIC WORDS: Their Structure and Meaning—W. E. Flood—*Duell*, 220 p., \$3.50. Dictionary lists alphabetically about 1,150 word-elements (roots, prefixes, suffixes) with numerous examples of scientific words and their meaning.

SOLID PROPELLANT ROCKET RESEARCH—Martin Summerfield, Ed.—*Academic*, 692 p., illus., \$6.50. Volume 1 of a series sponsored by the American Rocket Society.

THE STORY OF THE TRADE WINDS—Ruth Brindze—*Vanguard*, 68 p., illus. by Hilda Simon, \$3.50. Story about the discovery of these winds and their benefit to man.

THE STRUCTURE OF GLASS, Vol. 2—A. A. Lebedev and others, E. A. Porai-Koshits, Ed., transl. from Russian—*Consultants Bureau*, 480 p., illus., \$25. Proceedings of the Third All-Union Conference on the Glassy State, Leningrad, November 16-20, 1959. Published simultaneously in Russian by USSR Academy of Sciences.

TEACHING MACHINES AND PROGRAMMED LEARNING: A Source Book—A. A. Lumsdaine and Robert Glaser—*Nat. Educ. Assn.*, 736 p., illus., \$7.50. Comprehensive reference work on techniques and concepts of programmed individual instruction and automated teaching devices.

THERE STAND THE GIANTS: The Story of the Redwood Trees—Harriett E. Weaver—*Lane Bk. Co. (Lippincott)*, 70 p., illus., photographs, \$2.95. Introduces young readers to interesting facts about the stately trees of California.

THIS CROWDED WORLD—Frederick Osborn—*Public Affairs Committee*, Pamphlet No. 306, 28 p., illus., paper, 25¢ direct to publisher, 22 E. 38th St., New York 16, N. Y. Outlines the difficulties to be overcome before the world's population can be brought under control.

TROPICAL AFRICA, Vol. I: Land and Livelihood. Vol. II: Society and Polity—George H. T. Kimble—*Twentieth Century Fund*, 603 p., 506 p., photographs, map, \$15. Timely and comprehensive study of an area more than twice the area of the U. S., organized by topics such as population, food supply, industries, health and education.

UNDERSTANDING LIGHT: The Science of Visible and Invisible Rays—Beulah Tannenbaum and

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Myra Stillman—*Whittlesey House*, 143 p., illus. by G. Schrotter, \$3. About measuring, bending, bouncing and separating light.

THE WONDERFUL WORLD OF TRANSPORTATION—Laurie Lee and David Lambert—*Garden City Bks.*, 93 p., illus., \$2.95. Shows youngsters man's many methods of transportation in different places and times.

• Science News Letter, 78:428 December 24, 1960

Do You Know

Congress voted \$100,900,000 for the 1961 budget of the National Institute of *Mental Health*, a 40% increase over the 1960 appropriation.

About 200,000 people die from *strokes* each year in the United States.

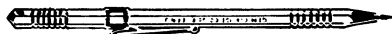
Meteorites probably strike the earth at the rate of 160 per year, including those which fall into the ocean.

Only three percent of *land* on the earth's surface is useful for food production.

• Science News Letter, 78:430 December 24, 1960

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MEDICINE

Relief for Bone Cancer

► RELIEF FOR PATIENTS with bone cancer through use of chemicals was reported by the Veterans Administration.

Two types of treatment were given to 19 patients at Hines, Ill., VA Hospital who had cancer of the prostate that had spread widely to bone.

Seven of eight who received injections of radioactive polymetaphosphate, a condensed form of phosphate, showed improvement and relief of pain.

Many of 11 patients with the same cancerous condition, who received a combination of the polymetaphosphate and the female hormone estrogen, were reported showing rapid, complete disappearance of bone pain, weight gain and minimal undesirable effects from the radiation.

Radioactive phosphate has been used for some time in treatment of malignant tumors spreading to bone, but the radio-

active polymetaphosphate seems to localize better in the growing bone around the cancerous areas than does the labeled phosphate.

The researchers said the new treatment apparently surrounds the bone cancer with a shell of radioactivity and tends to spare healthy tissue from radiation damage. Further follow-up of the combination estrogen-metaphosphate treatment is planned. The scientists suggested that metaphosphate be tried for other kinds of bone cancer.

They emphasized that the treatment is thought to be palliative only, since the cancer in some cases has become active again after a number of months.

Drs. Ervin Kaplan, I. Gordon Fels, John J. Imarisio and William S. Walsh, with Bruno R. Kotlowski and Joseph Greco, all of the Hines, Ill., VA Hospital, did the research.

• Science News Letter, 78:430 December 24, 1960

MEDICINE

Thyroid Cancer Increase

► THYROID CANCER is increasing among young children, apparently as a result of radiation treatments for other ailments around the head and neck, according to Dr. George Crile Jr., head of the department of surgery, Cleveland Clinic Foundation.

Dr. Crile said children as young as three years old have had thyroid operations following X-ray treatments for thymus conditions.

"We are not willing to say that the radiation actually caused the thyroid cancer," he said, "but we do associate the cause with radiation."

Dr. Crile said adequate surgery can be performed without sacrifice of important nerves and muscles of the neck. Nodules can be felt in routine examinations that should be made during office visits.

"These nodules should be removed in

young persons especially," he said. "A different type of thyroid cancer is found among older persons. This is highly malignant."

Dr. Crile said the Cleveland Clinic Foundation in most cases has been able to prevent recurrence of thyroid cancer following surgery and to maintain the endocrine balance of the body by feeding thyroid. The same type of pills are given that persons take who have deficient thyroid but no cancer.

"The incidence of recurrence of thyroid cancer is only one-seventh of what it was when our clinic began this treatment eight years ago," he said.

Dr. Crile was in Washington, D. C., to address a meeting of the St. George Society for Medical Students under sponsorship of the Medical Society of the District of Columbia and the American Cancer Society.

• Science News Letter, 78:430 December 24, 1960

MEDICINE

X-Rays in Leukemia

► X-RAYS of pregnant women do not increase the occurrence of leukemia in their children, a team of British scientists has found, contrary to the results of some United States studies.

A study of 39,166 children in Great Britain, whose mothers had had abdominal or pelvic radiation during pregnancy, showed no evidence that the X-rays increased the occurrence of the cancerous blood disease disproportionately.

Only nine of the children died of leukemia in a 13-year period studied, whereas the "expected" number was estimated to be 10.5.

Records of children born in eight hospitals, four in Edinburgh, Scotland, and four in London, were studied by W. M. Court Brown, Western General Hospital, Edinburgh, and by Dr. R. Doll and A. Bradford Hill, both of the London School of Hygiene and Tropical Medicine, with the cooperation of Drs. D. H. Cummack, Margaret S. King, Eric Samuel, and W. N. Thomson, all of Edinburgh, and R. E. Lawrence, F. Pygott, R. E. Steiner and E. Rohan Williams, all of London. Their report appears in the *British Medical Journal*, Nov. 26, 1960.

• Science News Letter, 78:430 December 24, 1960