

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.

ABC'S OF RADAR—Alan Andrews—*Bobbs*, 112 p., illus., paper, \$1.95. Tells how radar works and describes its many modern applications.

ADVANCES IN THE ASTRONAUTICAL SCIENCES, Vol. 6: Proceedings of the Sixth Annual Meeting of the American Astronautical Society, 1960—Horace Jacobs and Eric Burgess, Eds.—*Macmillan*, 898 p., illus., \$25. Major subjects covered are communication in space, propulsion, guidance, space medicine, problems of re-entry and upper atmosphere physics.

THE AUTOMOBILE TRANSMISSION AND DRIVE LINE—James S. McGrath—*Chilton*, 376 p., illus., \$7.95. Textbooks for the use of vocational-technical educators.

THE BOOK OF SCIENTIFIC DISCOVERY: How Science Has Aided Human Welfare—D. M. Turner, foreword by Charles Singer—*Barnes & Noble*, 3rd rev. ed., 301 p., illus., paper, \$1.75. Outlines for the general reader the origin and growth of some parts of our present scientific knowledge.

A BOOK TO BEGIN ON EXPLORERS—Leslie Waller—*Holt, Rinehart & Winston*, unpagged, illus. by Gil Miret, \$2.50. For the youngest readers, with lively illustrations.

CAREERS IN ENGINEERING, MATHEMATICS, SCIENCE AND RELATED FIELDS: A Selected Bibliography—A. Neal Shedd, Anita K. Scott, and James M. McCullough—*Office of Education*

(*GPO*), 39 p., paper, 25¢. Describes 285 titles of free and inexpensive career information.

CATERPILLARS—Dorothy Sterling—*Doubleday*, 64 p., illus., by Winifred Lubell, \$2.75. Tells young readers how caterpillars change into moths and butterflies.

CELL FUNCTION: An Introduction to the Physiology of the Cell and Its Role in the Intact Organism—L. L. Langley—*Reinhold*, 377 p., illus., \$7.50. Introductory text to a few of the basic principles governing living processes.

THE CHANGING YEARS: The Menopause Without Fear—Madeline Gray—*Doubleday*, rev. ed., 273 p., paper, 95¢. Presents for women the latest medical findings, based on interviews with many doctors.

COERCIVE PERSUASION: A Socio-Psychological Analysis of the "Brainwashing" of American Civilian Prisoners by the Chinese Communists—Edgar H. Schein with Inge Schneider and Curtis H. Barker—*Norton*, 320 p., \$6.75. Analyzes the experiences of a number of American civilians who were imprisoned in Red China and are alleged to have made confessions of a politically damaging nature.

THE CONQUEST OF PAIN: Achievements of Modern Anaesthesia—Ronald Woolmer—*Knopf*, 247 p., illus., \$4.50. Anaesthesiologist presents for the layman the latest achievements in the conquest of pain inside the operating room and out.

THE CONSULTING ENGINEER—C. Maxwell Stanley—*Wiley*, 258 p., \$5.95. Presents the professional and management problems involved in the practice of consulting engineering.

THE CURIES AND RADIUM—Elizabeth Rubin—*Watts, F.*, 112 p., illus. by Alan Moyler, \$1.95. Juvenile biography of Pierre and Marie Curie.

DARWIN'S PLACE IN HISTORY—C. D. Darlington—*Macmillan*, 110 p., \$2. Essay on the issues that matter most in the work of Darwin, of their origins before his time and of their effects today.

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ELEMENTARY CONCEPTS OF TOPOLOGY—Paul Alexandroff, preface of David Hilbert, transl. from German by Alan E. Farley—*Dover*, 73 p., illus., paper, \$1. Unabridged translation of book first published in 1932.

ELEMENTARY HUMAN PHYSIOLOGY: Laboratory and Demonstration Manual—A. B. Taylor and Frederick Sargent, II—*Burgess*, 104 p., illus., paper, \$2.75. Series of experiments planned for a one semester course.

THE FAMILY HANDBOOK OF HOME NURSING AND MEDICAL CARE—I. J. Rossman and Doris R. Schwartz—*Doubleday*, 519 p., illus., paper, \$1.45. Reprint of 1958 reference book on what to do for the patient after the doctor is gone.

FIELD COMPUTATIONS IN ENGINEERING & PHYSICS—A. Thom and C. J. Apelt—*Van Nostrand*, 165 p., \$5.75. A faster, more versatile squaring method of obtaining numerical solutions to partial differential equations in two dimensions.

FIVE LITTLE STORIES—William W. Strader—*Nat. Council of Teachers of Mathematics*, 16 p., illus., paper, 50¢. Interesting facts about mathematics for young people.

FOOD, LAND AND MANPOWER IN WESTERN EUROPE—P. Lamartine Yates—*Macmillan*, 294 p., \$7. European survey attempting to measure and project future trends in growth of population, labor productivity, consumption goods and government services both for Western Europe as a whole and for each of the 18 non-Communist countries.

THE FOREST SERVICE ENGINEER: Your Gateway to the Future—USDA (GPO), 32 p., illus., paper, 30¢. Career information for young people.

FRAME ANALYSIS—Arthur S. Hall and Ronald W. Woodhead—*Wiley*, 247 p., \$8.50. Offers principles of both flexibility analysis and stiffness analysis in one unifying treatment of the mathematical analysis of structural frames.

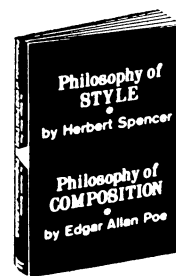
FROM EVEREST TO THE SOUTH POLE—George Lowe—*St. Martins*, 216 p., photographs by author, \$4.50. Account of the 1956 Trans-Antarctic Expedition as seen and experienced by the expedition's photographer.

GALAXIES—Harlow Shapley—*Harvard Univ. Press*, rev. ed., 186 p., illus., \$5. Selected for its lasting significance, this revision presents up-to-date material on galactic explorations, star clouds of Magellan, cepheids, the Milky Way and neighboring galaxies, the metagalaxy, and the expanding universe.

GALILEO AND EXPERIMENTAL SCIENCE—Rebecca B. Marcus—*Watts, F.*, 134 p., illus. by Richard Mayhew, \$1.95. Juvenile biography.

THE HAZARDS TO MAN OF NUCLEAR AND ALLIED RADIATIONS: A Second Report to the Medical Research Council—Sir Harold Himmsworth, Chmn—*Her Majesty's Stationery Office (British Information Services)*, 154 p., paper, \$1.35. British official data on fallout, its biological effects, and levels of radiation.

HOUSEHOLD DECISION-MAKING—Nelson N. Foote, Ed.—*N. Y. Univ. Press*, 349 p., \$6.50. Studies and discussions of family behavior re-



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garding decisions about saving, spending and selecting.

HOW TO CLEAN EVERYTHING: An Encyclopedia of What to Use and How to Use It—Alma Chestnut Moore—*Simon & Schuster*, rev. ed., 203 p., illus., \$3.75. Has alphabetized section on how to remove stains from fabrics.

HOW TO KNOW THE FERNS: A Guide to the Names, Haunts and Habits of Our Common Ferns—Frances Theodora Parsons—*Dover*, 2nd ed., 215 p., illus. by Marion Satterlee and Alice Josephine Smith, paper, \$1.25. Unabridged reprint of 1899 edition.

HOW TO MASTER YOUR ALLERGY: Harry Swartz, M.D.—*Nelson*, 288 p., \$5. Book concentrates on minimizing or avoiding allergic difficulty through preventive program.

HUMAN ANATOMY ATLAS: Ronald Keller in consultation with Christian A. Hovde—*Hammond*, 36 p., color illus., \$1. Depicts component parts of both the female and male anatomy.

THE THEORY AND OPERATION OF THE SLIDE RULE: John P. Ellis—*Dover*, 289 p., paper, \$1.50. Presentation emphasizes the fundamental

theory upon which slide rule operation is based.

VACATIONS ABROAD: Courses, Study Tours, Work Camps, 1961—UNESCO—*Unesco Publications Center (N.Y.)*, 13th ed., paper, \$1.25. Reports on wide variety of educational and cultural vacation activities in more than 75 countries, including information on financial assistance available.

WEED IDENTIFICATION AND CONTROL: In the North Central States—Duane Isely—*Iowa State Univ. Press*, 2nd ed., 400 p., illus. by Frances Fenske, \$4.95. Methods for determining unknown weeds, basic principles of weed control and recent advances in herbicidal weed control.

WHAT TO TELL YOUR CHILDREN ABOUT SEX: Child Study Association of America, Adie Suchs Dorf, Ed.—*Arco*, 96 p., illus. by Harry Rosenbaum, \$1.50. Tells parents simply and plainly, in question-and-answer form, how to impart sex information at the various stages of child development, from infancy to adolescence.

THE WORLD OF DINOSAURS: Edwin H. Colbert—*Home Lib. Press*, 34 p., illus. by George Geygan, 69¢. An introduction to prehistoric animals.

• Science News Letter, 79:300 May 13, 1961

INVENTION

Patents of the Week

A device to cut down air pollution has been patented. A solar cell for converting the sun's energy into electricity and a television antenna system were other inventions.

► **AN ANTISMOG DEVICE** to cut down air pollution has been patented.

A Los Angeles citizen became fed up with the auto exhaust gases that cause smog in his city 200 days a year and decided to take matters into his own hands. John Allen Buttler invented a combination muffler and afterburner (patent No. 2,981,057) that burns the harmful hydrocarbons before they are emitted into the atmosphere.

The muffler has a cage-like structure of heating rods and baffle screens. The rods are heated by a power line connected to the car's electrical system and the screens dampen the noise.

In order to ignite the hydrocarbons, a valve is shut when the automobile is started, trapping hydrocarbons in the muffler. A current is sent through the rods which generate enough heat to burn the hydrocarbons.

After a while, the baffle screen and a ceramic liner inside the muffler begin to glow and the current is then shut off and the valve opened. The glowing elements are sufficient to burn all hydrocarbons generated while the vehicle is moving.

A solar cell that converts the sun's energy into electricity won patent No. 2,981,777 for Donald C. Reynolds of Springfield, Ohio, who assigned patent rights to the U. S. Air Force. The surface receiving the sun's rays is polished and coated with a cadmium sulfide layer.

A TV antenna system that blocks out signals causing interference on the television set received patent No. 2,981,834. The system has an antenna that seeks out the unwanted signals and cancels them out, while another antenna receives the normal signals, inventors Rollind O. Holloway and John R. Holloway of Hollywood, Fla., stated. A similar system for radios is also covered by

the patent. A sharp stiletto to be used by skin divers swimming through dangerous murky ocean depths was invented by Californian Edwin J. Wedrall of La Habra. The weapon, which received patent No. 2,981,026, can be used for protection against underwater creatures, or for spearing fish. A pressurized can of carbon dioxide housed in the handles releases the gas upon spearing a fish, making the animal lighter so it floats to the surface.

A lightweight portable prompting system helps actors and speakers deliver their speeches or dialogue before television cameras or live audiences. Invented by Joseph Florian De Frenes of Springfield, Pa., and Horace Ludington Roberts of Port Chester, N. Y. (Contoocook, N. H.), the prompter received patent No. 2,981,144. The text, which is written on a strip of material, is presented to the speaker at a rate controlled by a tiny motor. The strip is threaded through a magnifying unit, providing easy visibility for the speaker.

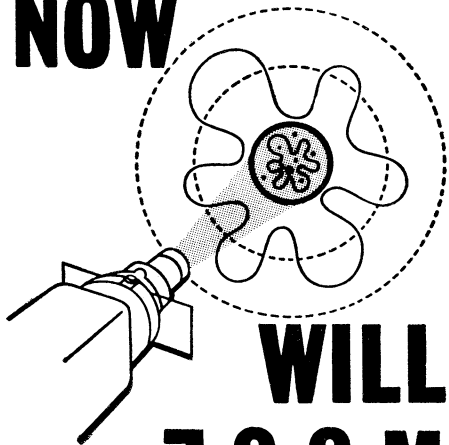
The device can also be used in foreign language classes, the two inventors stated.

A method for eliminating termites from homes supposedly can get into every crevice where the insects are hiding. Inventor Billy J. Woodson of Colton, Calif., was awarded patent No. 2,981,025 for the invention. A pipe peppered with tiny openings for spraying the anti-termite poison is designed for easy handling.

A scissor-like device, patent No. 2,980,995, for pruning or cutting shrubs and tree limbs was patented by Lendon W. Booth of Memphis, Tenn. No motion is wasted, the inventor stated, for the pruner cuts both on the forward and the backward stroke. Two circular plates with sharp teeth provide the cutting edge.

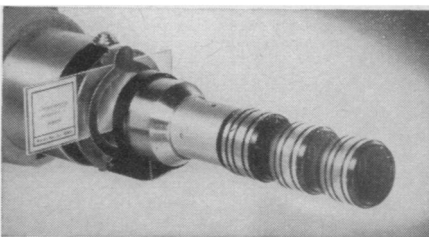
• Science News Letter, 79:301 May 13, 1961

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