

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, priced at 95¢ or over, 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. Request free publications direct from publisher, not from Science Service.

BEEKEEPING—John E. Eckert and Frank R. Shaw—*Macmillan*, 536 p., illus., \$12.50. Successor to "Beekeeping" by Everett F. Phillips. Offers up-to-date working knowledge of the biology, life history and habits of bees, as well as of the proper use of equipment and manipulative practices in their management.

BIOLOGICAL AND MEDICAL ELECTRONICS—Ralph W. Stacy—*McGraw*, 308 p., illus., \$9.50. Text and reference for biology and medical students, covers advances in the field of modern electronic apparatus, including special chapters on transistors and computers in the laboratory.

BOTANY—M. K. Hage, Jr. and M. Vere DeVault—*Steck*, 48 p., illus. by Carol Rogers, \$1.75. Elementary science of growing plants, illustrated by experiments.

CASSELL'S NEW LATIN DICTIONARY: Latin-English, English-Latin—D. P. Simpson—*Funk*, rev. ed., 883 p., thumb-indexed, \$7.75; plain, \$7. Following the tradition since its first appear-

ance more than a century ago, this latest revision adheres to "classical" Latin, while following present-day usages in Latin spelling and English idiom.

CHEMICAL AND NATURAL CONTROL OF PESTS—E. R. de Ong—*Reinhold*, 244 p., illus., \$7.50. To assist research worker, instructor, farmer and manufacturer in evaluating the most effective combination methods of pest control. Stressing the importance of natural control of pests, author shows that nature, unaided by chemical supplements, cannot provide the degree of extermination necessary to maintain our high standards of production.

CLASSICS OF MEDICINE AND SURGERY (formerly titled: *Epoch-making Contributions to Medicine, Surgery and the Allied Sciences*)—Collected by C. N. B. Camac—*Dover*, 435 p., illus., paper, \$2.25. Reprint of 1909 collection of unabridged text by Lister, Harvey, Jenner and other epoch-making scientific investigators.

EXPERIMENTS AND OBSERVATIONS ON THE GASTRIC JUICE AND THE PHYSIOLOGY OF DIGESTION—William Beaumont, with biographical essay "A Pioneer American Physiologist" by Sir William Osler—*Dover*, 320 p., paper, \$1.50. Facsimile reprint of the original edition of 1833.

THE FIRST BOOK OF AUSTRALIA—Edna Mason Kaula—*Watts*, F., 64 p., illus. by author, \$1.95. Attractive introduction for youngsters to the continent Down Under, its people, cities, aborigines, products and animals.

FUNDAMENTALS OF ROCKET PROPULSION—Raymond E. Wiech, Jr. and Robert F. Strauss—*Reinhold*, 135 p., illus., \$5.50. Concise and clear presentation of the principles of operation of the rocket, its capabilities and its limitations, written for both the student and the layman.

FUNDAMENTALS OF TRANSISTOR PHYSICS—Irving Gottlieb—*Rider*, 146 p., illus., paper, \$3.90. Text provides analysis of the action of semiconductors from the physics viewpoint, using descriptive narration rather than mathematical approach.

GASDYNAMIC DISCONTINUITIES—Wallace D.

Hayes—*Princeton Univ. Press*, 68 p., paper, \$1.45. Covers the basic theory of gasdynamic discontinuities, the normal shock wave, internal stability considerations and the physics of shock waves.

GEODETIC USES OF ARTIFICIAL SATELLITES—George Veis—*Smithsonian Contributions to Astrophysics (GPO)*, 62 p., illus., paper, 65¢ direct to Govt. Printing Office, Washington 25, D. C. Presents geometric method of using satellites in geodesy by performing a triangulation in space and determining the positions of a number of observing stations whose positions are unknown.

GHOST SHIP OF THE POLE: The Incredible Story of the Dirigible Italia, an International Tragedy That Has Shadowed a Man and a Nation for Thirty Years—Wilbur Cross, foreword by Vilhjalmur Stefansson—*Sloane*, 304 p., photographs, maps, \$5. Story of the Arctic disaster, based on research and interviews.

THE GOLDEN BOOK PICTURE ATLAS OF THE WORLD, 3 Vols.—Philip Bacon, Ed.—*Golden Press*, 577 p., more than 1,000 color photographs and maps, boxed set \$10. Invites young and old to take a colorful trip, seeing and reading about the geography and resources, agriculture, industry, people and cities of North and South America, Europe and the U.S.S.R., Asia, Africa, Australia, Oceania, Arctic and Antarctic.

A HISTORY OF GREEK FIRE AND GUNPOWDER—J. R. Partington, foreword by Sir Frederick Morgan—*Barnes & Noble*, 381 p., illus., \$13.50. Concise, fully annotated historical survey of the development of firearms from the early use of incendiaries in warfare, through the fires of Mark the Greek, gunpowder in Europe, Muslim lands and China, to the use of saltpeter.

THE IMAGE OF THE CITY—Kevin Lynch—*Technology Press & Harvard Univ. Press*, 194 p., illus., \$5.50. Examines the urban landscape, looking at three American cities: Jersey City, Los Angeles and, in particular, Boston. Offers some first principles of city design. Book itself is beautifully designed.

LAND FOR THE FUTURE—Marion Clawson, R. Burnell Held and Charles H. Stoddard—*Johns Hopkins Press* for Resources for the Future, 570 p., \$8.50. Authors examine the changing uses of land in the United States, historically, at present and in the light of expectations extending to the year 2000.

THE LICHEN FLORA OF THE UNITED STATES—Bruce Fink, completed for publication by Joyce Hedrick, foreword by Alexander H. Smith—*Univ. of Mich. Press*, 426 p., 47 plates, \$12.50. This reissue of manual published in 1935, though in some respects out of date, is still fundamental to the study of lichens.

LIFE IN THE SHIFTING DUNES—Laurence B. White, Jr.—*Museum of Science, Boston*, 84 p., illus. by Henry B. Kane, paper, \$1.75. Field guide to the natural history of Castle Neck, Ipswich, Massachusetts, showing the complex relationships of living animals and plants to their environment.

LIQUID PROPELLANT ROCKETS—David Altman and others—*Princeton Univ. Press*, 189 p., illus., \$2.95. Treats high temperature equilibrium, expansion processes, combustion of liquid propellants and the liquid propellant rocket engine.

THE MARINE FISHES OF RHODE ISLAND—Bernard L. Gordon—*Book & Tackle Shop*, 135 p., 80 photographs by author, \$4. Guidebook to the 215 species of salt-water fish found in Rhode Island coastal waters, in an unusual combination of salt marshes, estuaries, salt water ponds, rocky shoals and open sea.

MARINE SALVAGE OPERATIONS—Edward M. Brady—*Cornell Maritime*, 237 p., illus., \$8.50. Concerned with the actual business of ship salvage operations, covering the techniques, equipment and hazards of strandings, sinkings and rescue towing.

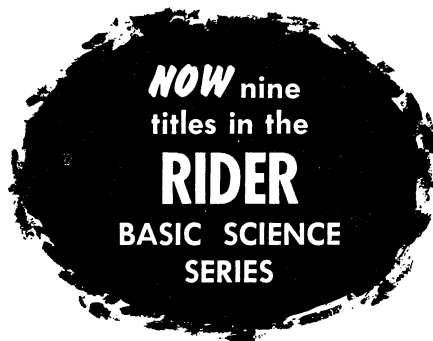
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DIRECT CURRENT ELECTRICITY (Franklinian Approach) by Alexander Efron Ph.D. Presents the fundamentals of direct current electricity. Discusses electrochemistry, voltage drop, electrical measuring instruments and the magnetic effects of electricity #200-9, \$2.25.

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MATERIALS SELECTION FOR PROCESS PLANTS—R. E. Gackenbach—*Reinhold*, 318 p., illus., \$8.50. Considers composition, physical and mechanical properties, fabrication technique, design and typical uses of each material covered.

OF MEN AND CARS—John Christy, Ed.—*Ziff-Davis*, 208 p., photographs, \$3.95. Takes the reader into the world of the builders of precision machines and the record-breaking drivers of racing cars.

MOON MAPS: With a chart showing the other side of the moon based upon the Soviet photographs—H. P. Wilkins—*Macmillan*, 36 p., 27 maps, \$6. Detailed moon maps in a form suitable for use at the telescope, on a scale of 55.4 miles to the inch. Alphabetical list of all named objects, giving principal features.

NEUROPHARMACOLOGY: Transactions of the Fifth Conference—Harold A. Abramson, Ed.—Macy, 251 p., illus., \$6. Group discussions on specific aspects of the effects of chlorpromazine, reserpine, and serotonin.

1960 CONFERENCE PROCEEDINGS: Fourth National Convention on Military Electronics, June, 1960, Washington, D. C.—Craig M. Crenshaw, Chmn., Technical Program Comm.—*Professional Group on Military Electronics, Inst. of Radio Engineers*, 629 p., illus., paper, \$5. Contains all unclassified papers, and lists titles and authors of classified papers presented.

THE PAGEANT OF MEDICINE—Felix Martibanez, Ed.—*Farrar, Straus*, 360 p., \$6. This anthology of selected material first published in MD, the medical newsmagazine distributed to doctors, covers wide range of human activity.

PROPULSION SYSTEMS FOR SPACE FLIGHT—William R. Corliss—*McGraw*, 300 p., illus., \$10. Treats the technology of space propulsion from turbojets to photon propulsion, with emphasis on the more advanced nuclear and electrical propulsion systems.

PUERTO RICO: Island of Promise—Ruth Gruber—*Hill & Wang*, 216 p., photographs, \$3.95; paper, \$1.95. Sympathetic introduction to the Commonwealth of Puerto Rico, its people, institutions, mores and emigrants.

THE REAL PROJECTIVE PLANE—H. S. M. Coxeter—*Cambridge Univ. Press*, 2nd ed., 226 p., paper, \$3.75. Reprint of 1955 second edition, paperbound.

SOLID PROPELLANT ROCKETS—Clayton Huggert, C. E. Bartley and Mark M. Mills—*Princeton Univ. Press*, 167 p., illus., paper, \$2.45. Covers combustion of solid propellants and solid propellant rockets, for students and research engineers.

A SURVEY OF BASIC MATHEMATICS—H. G. Apostle—*Little*, 464 p., \$6. A year's course to meet the mathematical needs of liberal arts students, with enough emphasis on technique to equip student to begin with technical college mathematics if he wishes.

SURVIVAL AT SEA: The Development, Operation and Design of Inflatable Marine Lifesaving Equipment—G. W. R. Nicholl—*Adlard Coles (de Graff)*, 166 p., illus., \$6. Lieutenant-Commander of the Royal Navy presents historical background, operational development and design of modern inflatable lifesaving equipment.

TRANSACTIONS OF THE VACUUM METALLURGY CONFERENCE, 1959—Rointan F. Bunshah, Ed.—*N.Y. Univ. Press*, 212 p., illus., paper, \$7.50. Papers on new research and advanced engineering information in vacuum metallurgy.

TRANSISTOR CIRCUIT ANALYSIS AND DESIGN—Franklin C. Fitchen—*Van Nostrand*, 356 p., \$9. Designed for one-semester course, concentrates on information an engineer needs to solve circuit design problems most likely to be encountered.

THE TRUMPETER SWAN: Its History, Habits and Population in the United States—Winston E. Banko—*U.S. Fish & Wildlife Service (GPO)*, 214 p., illus., paper, \$1. Comprehensive report on the trumpeter, from early historical notes to recent breeding and migration records, covers habitat and life cycle, population dynamics and management data.

Science News Letter, July 16, 1960

DENTISTRY

Tooth Decay Reduced Among Puerto Ricans

TOOTH DECAY among Puerto Rico's children has been decreased 65% with the help of fluorine chloride in the Commonwealth's drinking water. Public health officials report that better nutrition, increased dental service to school children and better health habits have also helped reduce decay. Begun in 1953, Puerto Rico's fluoridation program has cost \$641,000 so far, covering all but seven towns.

Science News Letter, July 16, 1960

Do You Know

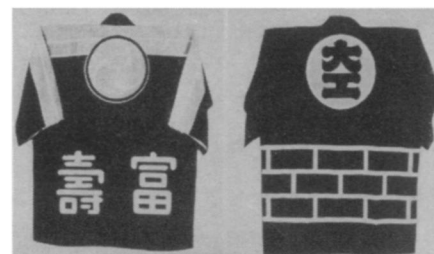
The Army has developed an all-purpose *rust preventive* that can be painted on metal surfaces; it is fireproof, anticorrosive and has no disagreeable odors.

Female insects have more blood than males and have higher levels of proteins and amino acids in the blood, presumably because of their egg-laying responsibilities.

Estimates indicate the world's supply of *coal and oil* will last about 100 years if used at the present rate.

Scientists can now detect *meteors* as small as one-millionth of an inch in size and a ten-millionth of a gram in weight—one-hundredth the size previously detected by radar.

Acetylsalicylic acid, the chemical name for modern *synthetic aspirin*, was first used in medical practice in 1899 to treat rheumatic diseases.



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Questions

BIOCHEMISTRY—What are the two theories regarding the role of chlorophyll in photosynthesis? p. 35.

METALLURGY—What materials have been grown as single crystals by the modified Verneuil process? p. 36.

TECHNOLOGY—How much weight will the Solaris robot lift? p. 39.

Photographs: Cover, National Aeronautics and Space Administration; p. 35, Corning Glass Works; p. 37, Harvard University; p. 39, Vitro Laboratories; p. 42, Science Service; p. 48, Gong Bell Mfg. Co.

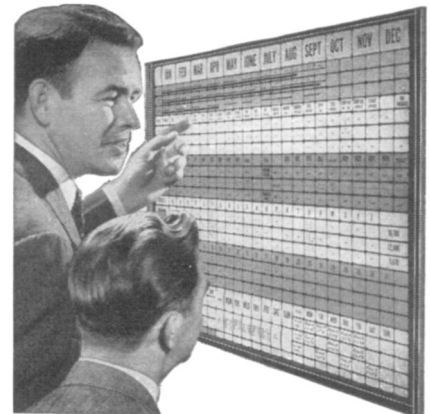
The formation of a *blood clot*, which normally takes from six to nine minutes, is a many-linked, chemical chain reaction.

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