

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 36, D. C.

ADVANCES IN CRYOGENIC ENGINEERING, Vol. 8—K. D. Timmerhaus, Ed.—Plenum Press, 701 p., illus., \$17.50. Proceedings of the 1962 Cryogenic Engineering Conference, includes contributions on cryopumping, thermodynamics, superconductivity, space problems and insulation.

ANNUAL REPORT 1962: The Secretary of the Interior—Stewart L. Udall—GPO, 450 p., illus., paper, \$1.75. Reports on new horizons in resource conservation and summarizes reports on work in the various sections of the U.S. Department of Interior.

BIONICS: USSR—L. P. Krayzmer, transl. from Russian—OTS, 111 p., diagrams, paper, \$2.50. On the fundamental aspects of using biological processes to solve engineering problems related to receiving, storing, transmitting and processing information in living organisms.

CREATIVITY AND PSYCHOLOGICAL HEALTH: Origins of Personal Vitality and Creative Freedom—Frank Barron—Van Nostrand, 292 p., \$6.50. Summarizes ten years of research by psychologists and psychiatrists at the Institute of Personality Assessment and Research, University of California, and other research centers.

CRITICAL THINKING: 1963 Yearbook—Donald G. Forgyas, Ed.—New Jersey Secondary School Teachers Assn., 147 p., paper, \$1 direct to Lester D. Beers, 1035 Kenyon Ave., Plainfield, N. J. Gives theoretical background, current research and concrete suggestions to challenge students to think for themselves.

THE CULTIVATION OF ANIMAL AND PLANT CELLS—Philip R. White—Ronald, 2nd ed., 228 p., illus., \$9. Concise treatment of the methods used in cultivating cells outside the body. Revision includes new material on nutrients, cloning and cultivation of plant cells.

EMERGENCY MEDICAL GUIDE—John Henderson—McGraw, 429 p., illus. by Neil Hardy, \$6.95. Simple discussion of the many common emergencies of a medical nature which occur most frequently.

ENERGY—Bruce Chalmers—Academic Press, 289 p., illus., \$5.75. Written by physicist for the non-scientist, to give a better appreciation of the achievements, potentialities and limitations in the use of energy. Includes problems at the end of each chapter.

MODERN MATHEMATICS FOR THE ENGINEER—Edwin F. Beckenbach, Ed.—McGraw, 514 p., diagrams, paper, \$3.45. Series of lectures designed to generate in the minds of engineers and applied scientists an awareness of the recent rapid advancement in applied mathematical thought.

NATURALIST IN TWO WORLDS: Random Recollections of a University President—Alexander G. Ruthven—Univ. of Mich. Press, 162 p., \$5. Reflections span the period 1929-1951.

PICTURE BOOK OF ROCKS AND MINERALS—Fred Reinfeld—Sterling, 64 p., photographs, paper, \$1. A short history of geology, amply illustrated.

RADIOACTIVITY: Fundamentals and Experiments—Sister Mary Hermias and Sister Mary Joecile—Holt, 209 p., illus., paper, \$1.72. Laboratory manual with a brief explanation of the underlying theory of each of the 51 experiments.

RESEARCH AND DEVELOPMENT IN INDUSTRY 1960: Final Report on a Survey of R&D Funds and R&D Scientists and Engineers—National Science Foundation—GPO, 118 p., paper, 65¢. Detailed analysis of 1960 survey of the magnitude, financing and other characteristics of research and development in industrial firms.

RESEARCH METHODOLOGY AND POTENTIAL IN COMMUNITY HEALTH AND PREVENTIVE MEDICINE—Leonard M. Schuman, Ed.—N. Y. Acad. of Sciences, Annals, Vol. 107, Art. 2, 337 p., paper, \$5. Illustrative studies of health agencies doing research in community health and preventive medicine, with stress on methodology rather than on findings.

VANISHING WILDLIFE—Roy Pinney, foreword by H.R.H. Prince Bernhard of the Netherlands—Dodd, 193 p., photographs, \$5. Discusses causes and geography of extinction of specific mammals, birds and fishes, and preventive measures.

• Science News Letter, 83:408 June 29, 1963

METEOROLOGY

Seventh Tiros Satellite Successfully Launched

► TIROS VII, the seventh U. S. weather satellite, has been successfully launched from Cape Canaveral.

The Federal Space Agency in announcing the success said tracking stations have picked up signals from the satellite as it swung across the United States at a speed of 16,000 miles per hour at the end of its first orbit.

Tiros VII is equipped with two independent television camera systems for obtaining earth cloud cover pictures over hurricane and typhoon breeding areas. The new satellite joins Tiros VI, now orbiting the earth some 425 miles in the sky, ships, planes, and radar systems already on the alert to spot and track the tropical storms of the 1963 hurricane season.

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Do You Know?

Ceramic magnets are now widely used for holding assemblies, synchronous drives, generators, loudspeakers, material handling equipment and a host of other applications in almost every conceivable industry.

Chemists doing research on radiation sickness have found two types, "reversible," from which eventual recovery is possible, and "irreversible," from which there is no recovery.

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SPACE

New Time-in-Orbit Records Set by Russians

► NEW TIME-IN-ORBIT records were set by the Russians, Cosmonaut Valery F. Bykovsky and the first woman astronaut Valentina V. Tereshkova. Lt. Col. Bykovsky landed safely on June 19 after 119 hours and 6 minutes in orbit (almost five days) and Jr. Lt. Tereshkova after 70 hours, 50 minutes.

However, except for the fact that new records were set, this mission was not as significant as the dual Soviet flights of last August, Dr. Edward C. Welsh, executive secretary of the National Aeronautics and Space Council said.

According to U. S. space experts the Soviet spacecraft are big enough to sustain an astronaut for 10 to perhaps 12 days.

If the United States wanted today to launch two manned space probes within a short time of each other, it would be physically impossible.

Several hundred thousand dollars is needed to outfit and equip a launching pad for a second Mercury space capsule to be launched within 24 hours of the first. Six to eight weeks is required to put the booster pad through the final checkout stages.

In the upcoming Project Gemini, a Titan II rocket will boost the two-man Gemini capsule where it will rendezvous in space with an unmanned space vehicle. An Atlas rocket will boost the unmanned capsule.

Although each rocket requires a different launching pad built to its own requirements, present physical facilities at Cape Canaveral will support this project. One of the three Titan launching pads is being adapted to manned space flight.

Although a water landing as used in Project Mercury is easier from the standpoint of shock, Project Gemini may utilize a paraglider to permit a "land" landing.

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SOCIOLOGY

Alcoholics' Wives No Cause of Drinking

► DO NOT BLAME nagging wives for their husbands' alcoholism.

There is no such thing as "the type of woman who will drive her husband to drink," investigators have found. Essentially, they said, personality types of alcoholics' wives are no different from those of non-alcoholics' wives.

In a study of 100 women—50 wives of alcoholics and 50 wives of nonalcoholics—half the alcoholics' wives had personality disorders. Drs. Kate L. Kogan, Wilbert E. Fordyce and Joan K. Jackson, University of Washington School of Medicine, Seattle, found the rate of disturbance was higher than that for nonalcoholics' wives.

However, they reported in the Quarterly Journal of Studies on Alcohol, 24:227, 1963, the difference was not great enough to support the generalization that all wives of alcoholics have disturbances and drive their husbands to drink.

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FREE BOOK!

"How do you play chess?" 48-page book with 86 questions on rules, strategy, history, etc., answered by Fred Reinfeld. Excellent for beginners. Entirely free; no strings attached; no obligation. Supply limited, write now. Dept. SNL, Dover, 180 Varick St., N.Y. 14, N.Y.

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