

Books of the Week

For the editorial information of our readers, books received for review since last week's issue 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. Request free publications direct from publisher, not from Science Service.

BIBLIOGRAPHY ON SOUTHWESTERN ASIA—Henry Field—*Univ. of Miami Press*, 106 p., paper, \$3.00. Contains 3,016 selected titles in anthropology, zoology and botany.

CENTENNIAL OF ENGINEERING: History and Proceedings of Symposia—Lenox R. Lohr, Ed.—*Museum of Science and Industry*, 1079 p., illus., \$10.00. The symposia held in connection with the celebration of the hundredth anniversary of the founding of the American Society of Civil Engineers took stock, reviewed and evaluated the accomplishments of the past, and looked into the future of engineering.

ELECTRON OPTICS—O. Klemperer—*Cambridge Univ. Press*, 2nd ed., 471 p., illus., \$9.50. An account of the principles, methods and applications of geometrical electron optics. Expanded to six times the size of the first edition.

ELEMENTARY SCHOOL OBJECTIVES—Nolan C. Kearney — *Russell Sage Foundation*, 189 p., illus., \$3.00. Specific objectives of elementary education as they have been outlined and evaluated by the Mid-Century Committee on Outcomes in Elementary Education.

ENGINEERS AS WRITERS: Growth of a Literature—Walter J. Miller and Leo E. A. Saidla—*Van Nostrand*, 340 p., illus., \$4.25. Fifteen great historical treatises are assembled so that engineering students may use them as guides to structure and style when writing technical reports.

ESSENTIALS OF MEDICAL RESEARCH — Wallace Marshall—*Vantage Press*, 176 p., \$3.00. Designed to acquaint the beginning researcher in general practice with the methods, organization, equipment, preparation of technical reports and other phases of medical research.

THE ESSENTIALS OF ORGANIC CHEMISTRY — C. W. Porter and T. D. Stewart—*Ginn*, rev. ed., 394 p., illus., \$5.00. Material for a short course in organic chemistry, covering most of the established facts and theories.

HIGH-FIDELITY: Design, Construction, Measurement—Martin Clifford, Ed.—*Gernsback*, No.

48, 128 p., illus., paper, \$1.50. For the audiophile, this material originally appeared in *Radio-Electronics* magazine.

HOPE FOR THE TROUBLED—Lucy Freeman—*Crown*, 256 p., \$3.00. The available avenues of help for the mentally ill are told, whether the trouble is a mild neurosis, character disturbance or a severe mental breakdown. The author is a newspaper reporter.

OPERATION DOORSTEP—Federal Civil Defense Administration—*Govt. Printing Office*, 30 p., illus., paper, 25 cents. A preliminary report giving some of the conclusions to be drawn from the March 17, 1953, atomic test with respect to civil defense.

ORGANIC CHEMISTRY — Ray Q. Brewster — *Prentice-Hall*, 2nd ed. 855 p., illus., \$7.00. New material includes expanded treatment of the chemistry of acetylene, fluorine compounds, the Walden inversion and free radical mechanisms.

PROCEEDINGS OF THE SECOND CONFERENCE ON SCIENTIFIC MANPOWER — Ralph M. Hogan — *National Science Foundation*, 47 p., paper, free upon request direct to publisher, 1520 H St., Washington 25, D. C. Papers presented at the second conference held Dec. 27-29, 1952, in conjunction with the St. Louis meeting of the AAAS involving manpower in physical, biological, engineering and social sciences.

REPORTS OF OFFICERS FOR THE FISCAL YEAR ENDED SEPT. 30, 1952—*Carnegie Corp. of New York*, 82 p., paper, free upon request direct to publisher, 522 Fifth Ave., New York 36, N. Y.

SAFER SMOKING: What Every Smoker Should Know and Do — Clarence William Lieb — *Exposition Press*, 106 p., \$2.50. A physician urges moderation in smoking and tells why.

SOME ECONOMIC EFFECTS OF HIGHWAY IMPROVEMENT—A. K. Branham, A. D. May, Jr., H. L. Michael, L. A. Thompson and C. H. Madden—*Highway Research Board*, Bul. 67, 21 p., illus., paper, 45 cents. Containing two papers, the first was developed from before-and-after studies conducted on two Indiana bypasses, and the second from the effects of a new manufacturing plant upon a rural economic pattern.

STREAM-FLOW FORECASTING FROM SNOW SURVEYS—R. A. Work — *Govt. Printing Office*, USDA Cir. 914, 16 p., illus., paper, 10 cents. Concerns the operation of snow surveys, the manner in which snow-survey measurements are used to forecast runoff, and the uses and benefits of runoff forecasts.

THE THERAPEUTIC COMMUNITY: A New Treatment Method in Psychiatry — Maxwell Jones—*Basic Books*, 186 p., \$3.50. Report on the methods used, and success of group therapy experiments, carried on at Belmont Hospital, London, which covered the entire working day of the patient.

THE TRUE BOOK OF AIR AROUND US—Margaret Frisley—*Childrens Press*, 47 p., illus., \$2.00. Wonders of the wind, clouds, lightning, thunder, rain, hail, sleet and snow. For Grade 2. *Science News Letter*, July 4, 1953

Questions

ELECTRONICS—How could "postcards" reduce cost of elaborate TV settings? p. 9.

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CHEMISTRY—How do sequestering agents help in cleaning up after an atomic blast? p. 12.

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MEDICINE—How could a low fat diet help patients with multiple sclerosis? p. 4.

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METEOROLOGY—What has been unusual about the weather this year? p. 4.

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VETERINARY MEDICINE—About what new disease are dog owners warned? p. 8.

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ENGINEERING

Radio and Ultrasonics Warm Body Muscles

➤ **RADIO AND ultrasonics** have combined to yield an effective way of warming deeply buried muscles of the body during heat treatments.

Herman P. Schwan, Edwin L. Carstensen and Kam Li, all of the University of Pennsylvania, reported to the American Institute of Electrical Engineers meeting in Atlantic City that the new system, developed since World War II, puts more heat where it is needed most—in the muscle.

Diathermy techniques involving electric currents often are not as effective as they could be because fat overlying the muscle absorbs most of the heat. The muscle, which is the actual target of the treatment, thus is denied a large share of the heat. With proper adjustment of radio and sound frequencies, however, the new system "pumps" more heat into the muscle, less into the fat.

Science News Letter, July 4, 1953

STORY of the GEMS

By HERBERT P. WHITLOCK

Curator of Minerals and Gems
American Museum of Natural History

"The best popular book on gems we have seen . . . Combines in happy fashion the complete mineralogical background of precious and semi-precious stones with enough of the fascinating history of gems to make the book much more than a manual of cuttable stones . . . Very fine illustrations of cut gems, some in color, and of carved jade and other precious stones. An excellent book for the small library since it covers accurately a wide field."—*Saturday Review of Literature*.

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