

# Books of the Week

TO SERVE YOU: To get books, send us a check or money order to cover retail price. Address Book Dept., SCIENCE NEWS LETTER, 1719 N St., N. W. Washington 6, D. C. Ask for free publications direct from issuing organizations.

**ADVENTURES WITH ANIMALS AND PLANTS**—Elsbeth Kroeber and Walter H. Wolff—*Heath*, 600 p., illus., \$3.20. A biology text for high schools made very attractive by generous illustration with photographs and drawings.

**ANIMALS WITHOUT BACKBONES: An Introduction to the Invertebrates**—Ralph Buchsbaum—*University of Chicago Press*, 371 p., illus., \$6.50. Any lover of nature or of photography will delight in this beautiful book with the story of invertebrates told in pictures and non-technical language. It also serves as college text and is a new printing of a book first published in 1938.

**CAN FARMERS AFFORD TO LIVE BETTER?**—Lowry Nelson—*National Planning Association*, 32 p., paper, 50 cents. An Agriculture Committee report.

**THE CHEMICAL ARTS OF OLD CHINA**—Li Ch'iao-p'ing—*Journal of Chemical Education*, 215 p., illus., \$5.00. A charmingly illustrated book on such things as the origin of gunpowder, and early experiments with gold, dyes, soybean products, lacquer and glue.

**CLINICAL INVESTIGATION OF BENTONITE-PETROLATUM OINTMENTS AND OINTMENT BASES**—Lester Hollander—*Mellon Institute*, 10 p., illus., free upon request direct to publisher, University of Pittsburgh, Pittsburgh 13, Pa. Certain advantages were found for this new type of base, including its moisture absorbing qualities.

**THE CONQUEST AND COLONIZATION OF YUCATAN, 1517-1550**—Robert S. Chamberlain—*Carnegie Institution of Washington*, 365 p., illus., paper \$4.75, cloth \$5.50. A history of the Spanish conquest of a province which held not great riches but good agricultural and pastoral promise and the clash between the Montejos of Spain and the Mayas.

**DEMANDS FOR LABOR: OPPORTUNITIES FOR RESEARCH**—Dale Yoder—*Social Science Research Council*, 40 p., paper, 50 cents.

**GROUND-WATER RESOURCES OF REPUBLIC COUNTY AND NORTHERN CLOUD COUNTY, KANSAS**—V. C. Fishel, S. W. Lohman, and H. A. Stoltenberg—*University of Kansas*, 194 p., illus., paper, 25 cents. A study of one of the most important of natural resources.

**JAMES WATT AND THE INDUSTRIAL REVOLUTION**—H. W. Dickinson and H. P. Vowles—*The British Council (Longmans, Green)*, 57 p., illus., paper, 60 cents. An important chapter in the history of England and of the modern mechanical world.

**MINERAL NUTRITION OF PLANTS AND ANIMALS**—Frank A. Gilbert—*University of Oklahoma Press*, 131 p., illus., \$2.75. The need for such a review of important literature on mineral nutrition became apparent to the author during experiments at Battelle Memorial Institute.

**PRINCIPLES OF RADAR**—Denis Taylor and C. H. Westcott—*Cambridge (Macmillan)*, 141 p., illus., \$3.50. A concise book for engineers, physicists, mathematicians and advanced students of radio. Of British origin.

**THE SCIENCE OF BIOLOGY TODAY**—Trofim Lysenko—*International*, 62 p., \$1.25. The controversy in Soviet Russia over the theories of genetics as viewed by one of the leading figures opposing the chromosome theory.

**VELOCITY-MODULATED THERMIONIC TUBES**—A. H. W. Beck—*Cambridge (Macmillan)*, 180 p., \$3.75. Not a text but a technical work for radio engineers. Of British origin.

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## RADIO

### Sound Reproduction More Efficient with Ceramic

➤ A WAR-DEVELOPED substitute for mica in radio condensers, barium titanate ceramic, promises to give superior performance to specialized loudspeakers or submarine sound detection microphones. The barium titanate, when placed in a field of several thousand volts, acts as a "transducer" and converts sound pressure to electric signals or back again with high efficiency.

W. P. Mason of the Bell Telephone Laboratories, reporting in the *PHYSICAL REVIEW* (Nov. 1), finds that the electrical behavior of barium titanate when fused into a ceramic is very similar to the magnetic behavior of the magnetostrictive nickel alloys that were used successfully in underwater sound projectors during the war. The term "electrostrictive" has been applied to its behavior.

The superiority of the barium titanate ceramic transducer is due to its large mechanical motion from a small electrical signal. In this respect its performance is superior to nickel magnetostrictive materials and is even superior to the much-used rochelle salt crystals. The ceramic has the additional advantage of being affected very much less by temperature changes than rochelle salt, its nearest competitor.

The ceramic is being widely used in new radios and television sets in condensers to

replace mica and to give a hundred-fold increase in electric storage capacity.

Application of titanate ceramics to a phonograph pick-up and to a microphone was reported to the Acoustical Society of America meeting recently by H. W. Koren of the Sonotone Corp., Elmsford, N. Y. A metal strip with a thin plate of ceramic soldered to one end or with thin plates soldered to both sides was used with good results.

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## AERONAUTICS

### Airliner Can Be Dropped 10,000 Feet in a Minute

➤ A BIG multi-engine airliner can be made to drop 10,000 feet in a minute by reversing the thrust of the propellers in flight.

Curtiss-Wright Corporation officials who demonstrated the quick drop system listed three advantages:

1. Emergency landings can be made quickly from high altitudes.
2. Military planes can use the maneuver in combat.
3. Less time will be lost at low altitudes by planes which operate most efficiently at high altitudes.

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### QUICK-READING TEMPERATURE-CONVERSION TABLES

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