

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 publication direct from issuing organizations.

ACCIDENT FACTS, 1950 EDITION—*National Safety Council*, 96 p., illus., paper, 60 cents. Includes information on occupational, transportation, home, farm and school accidents.

COMMUNITY LEADERSHIP—*American Association of School Administrators*, 24 p., illus., paper, 25 cents. Written to aid administrators in translating some of the basic concepts of cooperative leadership into community action for school improvement.

CORE CURRICULUM IN PUBLIC HIGH SCHOOLS: An Inquiry Into Practices, 1949—Grace S. Wright—*Gov't. Printing Office*, Federal Security Agency Bull. 1950 No. 5, 32 p., illus., paper, 15 cents. This bulletin is the outgrowth of a more extensive survey of curricular offerings of public high schools.

EXECUTIVE PLANNING—IF AN A-BOMB FALLS—R. Maxil Ballinger—*National Industrial Conference Board*, 19 p., illus., paper, \$1.00. A report giving information about atomic bomb effects and about protective measures industrial plants might use to reduce their hazards.

THE FILM BOOK: For Business, Education, and Industry—William H. Wilson and Kenneth B. Hass—*Prentice-Hall*, 259 p., illus., \$4.65. Presents information on many aspects of the film industry.

GLOSSARY OF BOTANICAL TERMS COMMONLY USED IN RANGE RESEARCH—W. A. Dayton—*Gov't. Printing Office*, U. S. Dept. of Ag. Misc. Publ. No. 110, 40 p., illus., paper, 20 cents.

GROUP LIFE: The Nature and Treatment of Its Specific Conflicts—Marshall C. Greco—*Philosophical Library*, 357 p., \$4.75. An attempt to explain neurotic and allied difficulties as well as their treatment from the point of view of an historical, group-life approach.

MATHEMATICAL SNAPSHOTS—H. Steinhaus—*Oxford University Press*, 266 p., illus., \$4.50. Many mathematical operations are made graphic and explained.

A NATURAL HISTORY OF TREES OF EASTERN AND CENTRAL NORTH AMERICA—Donald Culross Peattie—*Houghton Mifflin*, 606 p., illus., \$5.00. A handbook of trees giving their popular and technical names and general data in non-technical terminology. Many detailed sketches are presented.

THE PHASIAN BIRD—Henry Williamson—*Little, Brown*, 276 p., illus., \$4.00. The story of a hybrid pheasant's fight for survival during the years 1937-1944.

PRINCIPLES OF PSYCHOLOGY: A Systematic Text in the Science of Behavior—Fred S. Keller and William N. Schoenfeld—*Appleton-Century-Crofts*, 431 p., illus., \$4.00. An introductory college text.

SCIENCE AND THE PURPOSE OF LIFE—Boris Sokoloff—*Creative Age Press*, 284 p., \$3.00. The author discusses the problem of integrating religious theories with scientific theories.

SYMPOSIUM ON APPLICATION OF STATISTICS—*American Society For Testing Materials*, 36 p., illus., paper, \$1.00. These papers and discussions were presented at the First Pacific

Area National Meeting of the American Society for Testing Materials, San Francisco, Calif., Oct. 10-14, 1949.

TABLE OF THE BESSEL FUNCTIONS $Y_0(z)$ AND $Y_1(z)$ FOR COMPLEX ARGUMENTS—Computation Laboratory National Bureau of Standards—*Columbia University Press*, 427 p., \$7.50. One of a series of such tables which has been prepared by the Computation Laboratory.

ULTRASONIC COAGULATION OF PHOSPHATE TAILING—Dudley Thompson—*Virginia Polytechnic Institute*, 77 p., illus., paper, 75 cents. The results of an investigation made by the author.

WAVE MECHANICS, Vol. I: Elementary Theory—J. Frenkel—*Dover*, 2nd ed., 312 p., illus., \$3.50 (Vol. I & 2: \$7.50). A general survey of the subject of wave mechanics using elementary mathematics.

WAVE MECHANICS, Vol. II: Advanced General Theory—J. Frenkel—*Dover*, 524 p., illus., \$5.00 (Vol. I & 2: \$7.50). Presents mathematical ideas which form the physical principles of wave mechanics.

Science News Letter, October 14, 1950

GENERAL SCIENCE

Russian Scientists Get Credit for This Discovery

► HERE is a discovery for which Russian scientists deserve credit. They found eight years ago that two gases that mix readily under normal conditions separate into layers under extremely high pressure. Their observations have recently been confirmed at Yale University.

Two Yale chemical engineers, Prof. Barnett F. Dodge and A. E. Lindroos, are responsible. They found that two gases, which mix intimately under normal conditions, separate into two phases or layers when the mixture is put under a pressure of 50,000 pounds per square inch.

Going further than the Russians, they found another peculiarity which they call a "barotropic phenomenon." The lighter gas, which at first separated and floated on

top of the heavier gas, became heavier and sank to the bottom when pressures were increased.

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AERONAUTICS

New Device Feathers Propellers Automatically

► FEWER crashes of airplanes at take-off are promised with a new electric device for feathering the propellers automatically in case of an engine failure. The device was described in Baltimore, Md., to the American Institute of Electrical Engineers by Wilfred L. Kershaw of the Glenn L. Martin Company.

Feathering a propeller means turning its blades in their sockets so that they cut the air without causing the propeller to revolve. It is common practice with multi-engine craft in case an engine fails. The object is to keep the propeller from "windmilling" or rotating in the wrong direction to create extra air resistance.

The special feature of this device is that it works automatically in two seconds after engine failure. Manual operation by the pilot may be too late to prevent a crash.

The time-lag between the lack of propeller thrust from the faulty engine and the consequent windmilling of the propeller is a matter of seconds, Mr. Kershaw stated, and before the pilot can manually feather the useless propeller, the airplane may be out of control.

The device is complicated from the layman's standpoint. A time delay is to prevent initiating the feathering for cases in which the power loss is of a momentary nature. A special relay causes the delay.

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