

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.

ACTIVE TRANSPORT AND SECRETION—R. Brown and J. F. Danielli, Eds.—*Academic*, Symposia of the Society for Experimental Biology, No. VIII, 516 p., illus., \$8.00. Contains the papers read at a symposium of the Society for Experimental Biology held in July 1953.

ADVANCED MANAGEMENT: National Standards in Industrial Administration, Parts I and II—Dickson Reck—*Mellon Institute*, 10 p., illus., paper, free upon request to publisher, 4400 Fifth Ave., Pittsburgh 13, Pa. Clarifying the relationship between industrial companies and national standards.

ADVANCES IN CARBOHYDRATE CHEMISTRY: Vol. 9—Melville L. Wolfrom, R. Stuart Tipson and E. L. Hirst, Eds.—*Academic*, 426 p., illus., \$10.50. Contributions from carbohydrate-trained chemists on recent developments in this field.

ANALYSIS OF DEVELOPMENT—Benjamin H. Willier, Paul A. Weiss and Viktor Hamburger, Eds.—*Saunders*, 735 p., illus., \$15.00. The purpose of the book, the editors state, is to present a modern synthesis of our knowledge of the principles and mechanisms of development.

CATALYSIS: Volume II, Fundamental Principles (Part 2)—Paul H. Emmett, Ed.—*Reinhold*, 473 p., illus., \$12.00. Completing the presentation of fundamental catalytic principles in this series

that is attempting to summarize all that is known in regard to the theory and practice of catalysis.

A CHECK LIST OF THE DEGOLYER COLLECTION IN THE HISTORY OF SCIENCE AND TECHNOLOGY—Compiled by Arthur McAnally and Duane H. D. Roller—*University of Oklahoma Press*, 127 p., illus., paper, \$3.00. Listing approximately 3,500 entries, representing about 5,000 volumes.

THE CHEMISTRY OF LIVING CELLS—Helen R. Downes—*Harper*, 549 p., illus., \$7.50. A basic text in biochemistry, emphasizing the fact that plant and animal metabolism are fundamentally alike.

A DICTIONARY OF PASTORAL PSYCHOLOGY—Vergilius Ferm—*Philosophical Library*, 336 p., \$6.00. Definitions of those psychological terms and topics which have pertinence for the minister.

EDUCATING CHILDREN IN GRADES SEVEN AND EIGHT—Gertrude M. Lewis—*Govt. Printing Office*, Bulletin 1954, No. 10, 99 p., illus., paper, 35 cents. Based on a study of seventh and eighth grade classes in 76 schools in 23 states "to find practices which the local people consider to be good for children" in the schools.

INDIVIDUAL DEVELOPMENT—Lawrence K. Frank—*Doubleday*, Doubleday Papers in Psychology, 52 p., paper, 85 cents. The author attempts to establish a frame of reference appropriate for the study of development.

K*: *KREBIOZEN-KEY TO CANCER?—Herbert Bailey—*Hermitage House*, 312 p., \$3.50. The subject of this book is also the subject of a current medical controversy. The author supports the Krebiozen side.

A MANUAL OF THE DRAGONFLIES OF NORTH AMERICA (ANISOPTERA): Including the Greater Antilles and the Provinces of the Mexican Border—James G. Needham and Minter J. Westfall, Jr.—*University of California Press*, 615 p., illus., \$12.50. Providing an introduction to the insect order called Odonata, or dragonflies.

MATHEMATICS: For Technical and Vocational Schools—Samuel Slade and Louis Margolis—*Wiley*, 4 ed., 574 p., illus., \$4.48. A text on practical mathematics as applied to technical and trade work.

THE MICMAC INDIANS OF EASTERN CANADA—Wilson D. Wallis and Ruth Sawtell Wallis—*University of Minnesota Press*, 515 p., illus., \$7.50. An anthropological study of an Indian tribe that lives chiefly in the maritime provinces of Canada, showing how their culture has changed in the last 300 years.

NATURAL HISTORY OF THE SALAMANDERS OF THE PLETHODONTID GENUS ENSATINA—Robert C. Stebbins—*University of California Press*, 123 p., illus., paper, \$1.25. This family of salamanders is notable for its many completely terrestrial representatives.

POYKE—Wolly Carlson, Photography by Hardy Wieting—*All-Pets*, 62 p., illus., paper, \$1.00. The amusing antics of a parakeet told in pictures.

RADIO-CONTROL HANDBOOK—Howard G. McEntee—*Gernsback Publications*, Gernsback Library No. 53, 192 p., illus., paper, \$2.25. Directed to those who have some knowledge of electronics and model design, this book gives practical methods for uniting these fields.

SYPHILIS: The Invader—Erik Barnouw and E. Gurney Clark—*Public Affairs Committee*, Public Affairs Pamphlet, No. 24A, 28 p., illus., paper, 25 cents. The authors point out that the progress made in the fight against syphilis that followed the discovery of penicillin has brought new problems and dangers.

TRUTH AND FREEDOM—Louis de Raeymaeker and others—*Duquesne University Press*, Duquesne Studies, Philosophical Series 5, 133 p., cloth \$3.00, paper \$2.25. Professors of the University of Louvain consider the freedom of scientific research and expression and its relationship to truth.

THE UNLEASHING OF EVOLUTIONARY THOUGHT—Oscar Riddle—*Vantage Press*, 414 p., \$4.50. Scanning the wide range of the evolutionary process and showing the influence of organized religions in the suppression of evolutionary thought.

Science News Letter, February 5, 1955

FORESTRY

Columns of Hot Gases Spread Forest Fires

► **THE SPREAD** of forest fires is aided considerably by huge columns of hot gases that rise above the flames.

A preliminary study of the phenomenon by John Vehrencamp of the engineering department of the University of California at Los Angeles has shown that 75% to 80% of the heat from a fire is contained in these convection columns. Thus the heat of radiation, which makes firefighting so difficult, represents only a small portion of the total heat of combustion.

In the swirling gases of the towering columns hot sparks are carried aloft and often spread widely, kindling new fires.

A dramatic illustration of how the columns combine with meteorological factors to spread a fire was observed during the study, a part of the University of California's "Operations Firestop."

A cumulus cloud, which possesses a substantial updraft, passed over the heart of the forest fire last summer near Lake Elsinore, Calif. The combination of the convection column and cloud updraft sucked a huge mass of hot sparks upward in an almost explosive action and scattered it over a wide area. New fires sprang up immediately.

Science News Letter, February 5, 1955

MATH IS FUN

By Joseph Degrazia, Ph.D.

Here is a treasury of brain-teasers. You need not be a mathematical genius to solve these problems and puzzles. What you need is to know how to THINK LOGICALLY—how to REASON. This is practically a "course" in applied logic and reasoning—besides being an immense amount of fun that will keep you absorbed for many hours. You will find not only that MATH IS FUN, but also that learning math can be fun!

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