

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.

AMPHIBIANS AND REPTILES OF YEMEN—Karl P. Schmidt—*Chicago Natural History Museum, Fieldiana—Zoology, Volume 34, Number 24, 9 p., illus., paper, 15 cents.* This ancient kingdom of the Queen of Sheba has been almost completely closed to foreigners through much of its history. The need for advice concerning matters of public health led to the invitation to foreign medical missions to come to the country.

ANCIENT HISTORY OF WESTERN ASIA, INDIA AND CRETE—Bedrich Hrozný—*Philosophical Library, 260 p., illus., \$12.00.* The history of this part of the world includes the story of the oldest known human cultures. The author is professor of Oriental languages and history at Charles' University, Prague.

THE BRITISH CONTRIBUTION TO MEDICINE — Jaime Jaramillo-Arango, with foreword by Sir Arthur Macnalty — *Livingstone (Williams &*

Wilkins), 220 p., illus., \$6.00. A physician from Colombia who also served as his nation's ambassador in London writes this appraisal of England's contribution to medicine, with special emphasis on the conquest of typhoid, the development of penicillin, the antibiotics and vitamins.

CHAMBERS' SHORTER SIX-FIGURE MATHEMATICAL TABLES—L. J. Comrie—*Chemical Publishing Company, 387 p., \$6.50.* The author holds that these 6-figure tables are accurate enough to cover 95 per cent of computational requirements.

CLIMATIC CHANGE: Evidence, Causes, and Effects—Harlow Shapley, Ed.—*Harvard University Press, 318 p., illus., \$6.00.* A group of authoritative papers brought together by the Rumford Committee which tell the story of evolution as affected by changes in climate, and the evidence to be found of these changes as recorded in rocks,

tree rings, the melting point of bone marrow and other such indexes.

CONSTRUCTION FINANCING FOR HOME BUILDERS—Neal MacGiehan—*Govt. Printing Office, Bulletin of Housing and Home Finance Agency, 128 p., paper, 70 cents.* Intended as a practical guide for home builders.

CONTRIBUTIONS TO THE FLORA OF VENEZUELA: From Ericaceae through Compositae—Julian A. Steyermark and others—*Chicago Natural History Museum, Fieldiana—Botany, Volume 28, Number 3, 230 p., illus., paper, \$4.25.*

CROCODILE FEVER: A True Story of Adventure—Lawrence Earl—*Knopf, 293 p., illus., \$3.95.* Written by a Canadian newspaper man, this book gives the reader a picture of life among the wild creatures of the Zambezi jungles.

DISEASES OF BRITISH GRASSES AND HERBAGE LEGUMES—Kathleen Sampson and J. H. Western—*Cambridge University Press, 2d ed., 118 p., illus., \$3.00.* Grass may be claimed as the oldest agricultural crop, but it is only in recent years that diseases of grasses have attracted the attention of practical men.

FINANCING THE CONSTRUCTION OF PREFABRICATED HOUSES—Arthur E. Warner—*Govt. Printing Office, Housing Research Paper No. 27, 55*

Science Leaps Barriers of Language With Journal, Scientia International

Monthly Edition of *Science News Letter* in Interlingua

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p., paper, 40 cents. Report of a special study made by the School of Business, Indiana University.

FRESH-WATER LIMESTONE FROM THE TOROLA VALLEY, NORTHEASTERN EL SALVADOR—Sharat Kumar Roy and Robert Kriss Wyant—*Chicago Natural History Museum, Fieldiana—Geology*, Volume 10, Number 16, 19 p., illus., paper, 50 cents.

THE GEOLOGY OF CHACO CANYON, NEW MEXICO IN RELATION TO THE LIFE AND REMAINS OF THE PREHISTORIC PEOPLES OF PUEBLO BONITO—Kirk Bryan—*Smithsonian, Miscellaneous Collections*, Volume 122, Number 7, 65 p., illus., paper, 90 cents. Shows that the canyon went through a cycle of cutting and refilling three times. Evidence indicates that the residents of Pueblo Bonito practiced floodwater farming and abandoned the site when cutting of the arroyo put an end to this type of farming.

GEOLOGY OF THE GRIFFITH PARK AREA LOS ANGELES COUNTY, CALIFORNIA—George J. Neuerburg—*California Division of Mines, Special Report 33*, 29 p., illus., paper, 50 cents. The site of this study is the largest municipal park in the world, and it is there that Griffith Observatory is located.

INDUSTRIAL FERMENTATIONS: Volume I—Leland A. Underkofler and Richard J. Hickey—*Chemical Publishing Company*, 565 p., illus., \$12.00. Fermentations are among the oldest chemical processes used by mankind, but it is only in the present century that they have been put on a scientific basis. This symposium presents an authoritative review of recent advances.

INTERTIDAL INVERTEBRATES OF THE CENTRAL CALIFORNIA COAST: S. F. Light's Laboratory and Field Text in Invertebrate Zoology—Revised by Ralph I. Smith and others—*University of California Press*, 446 p., illus., \$5.00. At the time of Prof. Light's death, the first edition of this manual was practically out of print and only a small amount of the work of revision had been carried out by the author. It has now been completely revised.

AN INTRODUCTION TO JOURNALISM: A Survey of the Fourth Estate in All Its Forms—F. Fraser Bond—*Macmillan*, 358 p., illus., \$4.50. A text book for general beginning courses in journalism.

THE MACMILLAN WILD FLOWER BOOK—Descriptive text by Clarence J. Hylander, illustrations by Edith Farrington Johnston—*Macmillan*, 480 p., illus., \$15.00. A profusion of 4- to 6-color plates makes this a beautiful book as well as a useful guide to wild flowers.

THE MIND AND THE EYE: A Study of the Biologist's Standpoint—Agnes Arber—*Cambridge University Press*, 146 p., \$3.00. Presenting a botanist's approach to his own subject and to philosophy.

THE MONKEY BOOK—Ernest P. Walker—*Macmillan*, 153 p., illus., \$6.50. Bringing together the answers to the questions most frequently asked about the care and handling of this delicate pet.

THE NATURAL HISTORY OF MAMMALS—Francois Bourliere—*Knopf*, 363 p., illus., \$5.00. A readable account of the interesting habits and ecology of wild mammals.

NATURE AND THE GREEKS—Erwin Schroedinger—*Cambridge University Press*, 96 p., \$2.00. "By the serious attempt to put ourselves back into the intellectual situation of the ancient thinkers, far less experienced as regards the actual behaviour of nature, but also very often much less biased," explains the Nobel author, "we may regain from them their freedom of thought—albeit possibly in order to use it, aided by our superior knowledge of facts, for correcting early mistakes."

PUBLIC EXPENDITURE ON EDUCATION: A Preliminary Statistical Report—Department of Social Science, UNESCO—*Education Clearing House, UNESCO*, 129 p., paper, free upon request direct to publisher, 19, Avenue Kleber, Paris XVI, France.

RAT QUALITY A CONSIDERATION OF HEREDITY, DIET AND DISEASE: Proceedings of the Symposium Held at Columbia University, College of Physicians and Surgeons, New York, N. Y., January 31, 1952—W. E. Heston and others—*National Vitamin Foundation*, 138 p., illus., paper, \$2.50. Despite the complexity of the rat as a laboratory instrument, some investigators have failed to pay much attention to its standardization.

SOME MAMMALS OF YEMEN AND THEIR ECTOPARASITES—Colin Campbell Sanborn and Harry Hoogstraal—*Chicago Natural History Museum, Fieldiana—Zoology*, Volume 34, Number 23, 24 p., paper, 35 cents.

SUPPLEMENT TO INSECT ENEMIES OF EASTERN FORESTS (MISCELLANEOUS PUBLICATION 657): Index to Insects by Host Plants—J. V. Schaffner, Jr.—*Govt. Printing Office*, 29 p., paper, 15 cents. Intended to enable foresters and others not trained in entomology to identify an insect that is causing damage to a particular kind of tree or shrub.

TOXICITY OF INDUSTRIAL ORGANIC SOLVENTS: Revised in Consultation With the Toxicology Committee—Ethel Browning—*Chemical Publishing Company*, rev. American ed., 411 p., \$8.00. Important to those concerned with the health and safety of industrial workers.

A TREASURY OF SCIENCE—Harlow Shapley, Samuel Rapport and Helen Wright, Eds.—*Harper*, 3d rev. ed., 724 p., \$5.95. In this new edition, the atom is removed from a supplement and integrated into the main part of the book. A new section is added on Science and the Future.

TUNGSTEN DEPOSITS OF MADERA, FRESNO AND TULARE COUNTIES, CALIFORNIA—Konrad B. Krauskopf—*California Division of Mines, Special Report 35*, 83 p., illus., paper, \$1.25. The surface exposures have been well prospected and most of the accessible deposits have been exploited.

ZEIN: An Annotated Bibliography 1891-1953—Dorothy M. Rathmann—*Mellon Institute*, 118 p., paper, free upon request direct to publisher 4400 Fifth Ave., Pittsburgh 13, Pa. Since it became commercially available in 1944, interest has been increasing in this alcohol-soluble protein from corn with its ever-widening industrial uses. Here are listed 942 citations.

Science News Letter, February 20, 1954

MYCOLOGY

Soil Fungus Produces Nitrate From Nitrogen

► A SOIL fungus that can produce nitrate nitrogen from organic nitrogen has been found by Dr. Edwin L. Schmidt of the University of Minnesota.

Since around 1890, scientists have attributed the formation of nitrates in the soil to a few kinds of highly specific soil bacteria that oxidize ammonium nitrogen to nitrate in a two-step process.

Nitrogen is fundamental in the production of protein by plants. Most plants cannot use pure nitrogen, and need it fixed in some other form as nitrates, nitrites or ammonia.

Dr. Schmidt's work, reported in *Science* (Feb. 5), is the first indication that fungi may participate in the nitrification process. Most such organisms stop with the production of nitrite nitrogen, one step below nitrate.

The fungus is *Aspergillus flavus*, a common soil organism. Dr. Schmidt grew the fungus in a liquid culture medium containing organic nitrogen. No observation that the fungus will produce nitrates in soil has been made. He said that studies are now underway to determine the abundance of nitrifying fungi in the soil.

Science News Letter, February 20, 1954

The farmer's share of the consumer's food dollar in 1953 averaged about 45 cents, about two cents less than in 1952.

Citrus fruits, important crops in Florida, California and Texas, are native to Asia.

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