

**Plant Pathology.** An advanced treatise. J. G. Horsfall and A. E. Dimond, Eds. vol. 1. *The Diseased Plant*. Academic Press, New York, 1959. xiv + 674 pp. Illus. \$22.

The art and the science of plant pathology have come a long way since F. Lamson-Scribner's modest 138-page book, *Fungus Diseases of the Grape and Other Plants and Their Treatment*, appeared in 1890 as the first American book dealing with plant diseases. In the volume under review, the editors and their collaborators needed nearly 700 pages to present the available data on the subject of diseased plants, and this is only one of a proposed three-volume work on the general subject of plant pathology. Succeeding volumes in the series will bear the titles *The Pathogen* and *The Diseased Population*.

As stated by the editors, "The purpose of this comprehensive treatise is to present an integrated synthesis of the parts of plant pathology. It is designed for the creative worker not for the beginning student. Many books discuss the specific diseases of plants but this work does not. Rather it treats of the concept of disease, not of diseases."

Nineteen phytopathologists (including the editors), all of whom are recognized specialists along the lines of their several contributions, supplied the 15 chapters making up the first volume. Horsfall and Dimond introduce the subject of the diseased plant by covering such points as "What is plant pathology, what is disease, and the impact of plant disease on society." J. G. Ten Houten and G. W. Keitt present adequate accounts of the scope and contributions of plant pathology and of the history of the science. K. Starr Chester discusses the many points necessary to answer the question: "How sick is the plant?" Six chapters are devoted to the major manifestations of disease—namely, the disintegration of tissue, abnormal effect on growth and reproduction, starvation, water deficiency, and alteration of the respiratory pattern. The several authors have handled their subjects skillfully and adequately.

Other vital aspects of the behavior of diseased plants are covered in authoritative chapters on the histology of defense in plants, the physiology and biochemistry of defense, hypersensitivity, and predisposition. In a final chapter on therapy, F. L. Howard and J. G. Horsfall present a thought-provoking account of disease control; they pay special attention to topical and systemic

chemotherapy, both still somewhat controversial aspects of the subject. Each chapter concludes with a comprehensive series of citations to the literature reviewed in the text so that ready reference can be made to any point on which further detail is desired. In a general work of this nature, dealing to a very considerable extent with abstract matters, a detailed subject index is necessary, and this volume has been provided with a 50-page index.

The editors and their collaborators have succeeded admirably in presenting a scholarly study of an important field of human activity. This three-volume series, international in its scope and preparation, presents a firm foundation on which to erect a superstructure of future research.

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**Arizona Place Names.** Will C. Barnes. Revised and enlarged by Byrd H. Granger. University of Arizona Press, Tucson, 1960. xix + 519 pp. Illus.

This volume provides a list of place names arranged alphabetically by counties. The entries vary in length from a page or more (for the history of a county) to a few lines (for Mule Shoe Bend and Parrissawampitts Spring), and provide the following information: location, elevation, pronunciation, description, references to volumes containing further information. A bibliography and an alphabetical index are provided. The pronunciation guide was worked out by C. F. Voegelin, head of the department of anthropology at Indiana University.

## New Books

### Bibliography and Reference

Council for Science. *Directory of Scientific Institutions in Indonesia*. The Council, Djakarta, Indonesia, 1959. 80 pp. This directory, the first publication in the Council's bulletin series, provides information about approximately 105 scientific institutions in the country.

Deutschen Akademie der Wissenschaften zu Berlin. *Tätigkeitsbericht der Forschungsgemeinschaft der Naturwissenschaftlichen, Technischen und Medizinischen Institute, 1957-58*. The Academy, Berlin, 1959. 254 pp.

Hyman, Charles, Ed. *German-English Mathematics Dictionary*. Interlanguage Dictionaries, New York, 1960. 131 pp.

National Academy of Sciences. *Bio-*

*graphical Memoirs*. vol. 34. Columbia Univ. Press, New York, 1960. 373 pp. \$5. Contains biographical memoirs of W. E. Bachmann, R. A. Daly, B. Davis, G. A. Hulett, C. F. Kettering, M. S. Kharasch, O. Meyerhof, J. B. Murphy, J. U. Nef, L. V. Pirsson, C-G. A. Rossby, Florence R. Sabin, L. B. Stillwell, J. R. Swanton, and W. R. Whitney.

Royal Society of London. *Year Book, 1960*. The Society, London, 1960. 302 pp.

Tremaine, Maries, Ed. *Arctic Bibliography*. vol. 8. Prepared under the direction of the Arctic Institute of North America. Department of Defense, Washington, D.C., 1959 (order from Supt. of Documents, GPO, Washington 25). 1336 pp. \$4.75. Volume 8 abstracts and indexes the contents of 5623 publications relating to the arctic areas and to low-temperature conditions. Of the publications abstracted in this volume, 2762 are in English and 1489 are in Russian; about four-fifths of the publications are dated between 1950 and 1956.

Walford, A. J., Ed. *Guide to Reference Material*. Library Association, London, 1959 (order from Bowker, New York). 551 pp. \$12. The *Guide* provides an annotated list (approximately 3000 entries) of the leading reference books and bibliographies. Emphasis is placed on current publications, particularly British.

*The World of Learning 1959-60*. Europa Publications, London, ed. 10, 1960. 1234 pp. \$23.50. Edition 10 follows the familiar format of the earlier editions; it covers 140 countries and territories, providing information about academies, learned societies, research institutes, libraries and archives, museums and art galleries, universities, colleges, and technical institutes. There is an alphabetical index of institutions.

### Mathematics, Physical Sciences, and Engineering

Allen, Donald S., and Richard J. Ordway. *Physical Science*. Van Nostrand, Princeton, N.J., 1960. 836 pp. \$8.25.

Easton, W. H. *Invertebrate Paleontology*. Harper, New York, 1960. 713 pp. \$10.

Goldsmid, H. J. *Applications of Thermoelectricity*. Methuen, London; Wiley, New York, 1960. 133 pp. \$2.25.

Gregory, Robert H., and Richard L. Van Horn. *Automatic Data-Processing Systems*. Principles and procedures. Wadsworth, San Francisco, 1960. 715 pp.

Reid, Constance. *Introduction to Higher Mathematics for the General Reader*. Crowell, New York, 1959. 191 pp. \$3.50.

Washtell, C. C. H. *An Introduction to Radiation Counters and Detectors*. Philosophical Library, New York, 1960. 115 pp. \$7.50.

Westbrook, J. H., Ed. *Mechanical Properties of Intermetallic Compounds*. A symposium (1959). Wiley, New York, 1960. 444 pp. \$9.50.

Wisser, Edward. *Relation of Ore Deposition to Doming in the North American Cordillera*. Memoir 77. Geological Soc. of America, New York, 1960. 127 pp.

Yoder, E. J. *Principles of Pavement Design*. Wiley, New York; Chapman and Hall, London, 1959. 585 pp. \$13.25.