

and dispensaries, and whose volume of business is primarily and principally in such articles."

It is understood, of course, that dealing in one or a few of the lines of articles mentioned

in the definition would not constitute a wholesale druggist; the functions and operations of a wholesale druggist certainly embrace all or the great majority of such lines.

BOOK NOTICES AND REVIEWS.

Scientific and Applied Pharmacognosy. By Henry Kraemer, Ph.B., Ph.M., Ph.D., Dean of the College of Pharmacy and Professor of Pharmacognosy in the University of Michigan College of Pharmacy; Member of the Executive Committee of Revision of the United States Pharmacopoeia. Second edition, revised and illustrated with over 300 plates. Octavo, xxviii + 741 pages. New York: John Wiley & Sons, Inc.

Owing to an increase in the size of the printed page, the second edition of this standard reference book is more compact than the previous volume. The use of heavy-faced type for the titles of the different items considered and for subtitles of paragraphs makes for greater convenience and is a decided improvement.

In the introductory chapter the author not only calls attention to the exceedingly broad field of pharmacognosy but lays stress on the qualifications necessary for an intelligent pursuit of this branch of pharmacy as a livelihood. A thorough knowledge of botany, chemistry, physics and crystallography is considered essential. No mention is made of the importance of even superficial training in *materia medica* and therapeutics in the identification of drug products and the essentials of bacteriology in the microexamination of food products. General principles and definitions regarding natural, commercial and botanical origins, habitat, titles, time of collection, valuation and methods of preparation and preservation are stated in this part of the book.

The body of the text is devoted to a consideration of the various official and non-official drugs and drug products together with brief notations regarding some of the more important foodstuffs. Engler and Prantl's natural arrangement of botanical orders has been followed throughout the work. A summary of the anatomical characters is given in connection with each family. This is followed by detailed descriptions of the individual plants of medicinal or economic importance in that family. The descriptions include details of macroscopic and microscopic structure, constituents, allied plants, possible adulterants

and literature regarding the item under consideration. In the last section of the book the topic of powdered drugs is very briefly considered and an analytical key for the identification of many powdered drugs and drug products is included. The official standards for spices set forth in Circular 136 (Standards of Purity for Food Products, U. S. Bureau of Chemistry) are stated in connection with the spice or condimental drugs, but these requirements are not always in conformity with the Pharmacopoeial and Formulary standards and attention should be called to the differences. The designation of official items might possibly increase the usefulness of the volume especially to those who are not entirely familiar with the drugs and products included in the Pharmacopoeia and Formulary.

The volume is a very compact and useful reference book for those possessing a knowledge of botany and vegetable histology and who are familiar with the technical procedures in microscopy.

C. W. B.

The Microanalysis of Powdered Vegetable Drugs. By Albert Schneider, M.D., Ph.D. (Columbia University), Professor of Pharmacognosy in the College of Pharmacy and Professor of Pharmacology in the College of Medicine, University of Nebraska, Lincoln. Second edition, with 237 illustrations. 548 pp. P. Blakiston's Son & Co. Price \$5.00 net.

The second edition, which has followed many years after the first, presents a very striking enlargement over the first edition.

Schneider's work is thorough, comprehensive and strictly up to date, and perhaps is the best so far presented in American literature. The introductory chapters embracing "The Microscope in Modern Pharmacy," "General Suggestions on the Examination of Vegetable Powders," "The Quality and Purity of Vegetable Drugs from the Standpoint of the Pure Drugs Act," "Causes Modifying the Characteristics of Vegetable Powders," "Powdering Vegetable Drugs," "Adulteration or Sophistication of Vegetable Drugs," "The Microscopical Examination of Powdered