Dr. Doran said the Bureau of Prohibition, through the Department of the Treasury, had requested the Commission to grant new examinations for the agents, adding that the first one contained many questions which are "far over the heads of the agent."

BOOK NOTICES AND REVIEWS.

Drugs-Map of the World. By Dr. Wolfgang Himmelbaur and Dr. Bernhard Hollinger. Brochure, 48 pp., with seven maps. Kartographische Anstalt G. Freytag & Berndt in Vienna. M 21.50.

This the latest contribution to pharmacogeography will be welcomed by all students and teachers of our vegetable materia pharmaceutica. To the former it will visualize much of his book knowledge. To the latter it will be a welcome pedagogical tool.

Whereas certain parts of this chapter of pharmacognosy have been worked up thoroughly, others require further exploration. This becomes apparent from a mere glance at the drug map of North America. Most, if not almost all of our medicinal plants would seem to grow east of the Mississippi. True, Cascara Sagrada is indicated in the extreme west but near the Mexican border and not near the Canadian border or in Canada.

Even though the English of the text calls for revision of the idiom, the brochure with its maps should find a place in every college or school of pharmacy. E. K.

Pharmacognosy and Materia Medica. For Students in Pharmacy and Practicing Pharmacists. By Homer C. Washburn, Ph.C., B.S. (in Phar.) and Walter H. Blome, Ph.C., M.S. With a chapter on Vitamines and one on Insulin by Walter Pitz, M.S. 585 pp, 110 illustrations. John Wiley & Sons, Inc., New York, 1927. Price $5.00.

The aim of the authors, is to present the important features and facts concerning plant and animal drugs. They therefore give for each drug: its Latin name, the derivation of this name and how it is pronounced; its English name; its synonyms; botanic source; family; part used; description and physical properties; habitat; a discussion, in which a more detailed description is given of the plant, or animal source, an account of how the drug is obtained, varieties, etc., etc.; constituents; properties, use and dose; and finally official preparations. All of the vegetable and animal drugs listed in the U. S. P. X, and the N. F. V as well as a number of the more important non-official drugs which find frequent use in present-day practice are thus taken up; the letters U. S. P. designating those of the Pharmacopœia, and N. F. those of the National Formulary.

Microscopic characteristics of drugs are not given, the authors being convinced that this work is less essential, and at best should be given in the course in microscopical botany. The book thus conceived, makes a most favorable showing, and criticisms are few. First, the authors will do well to follow the U. S. P., and N. F. in printing the source and family as there given, italicizing generic and specific names and the family, and not in italicizing authorities. This, too, is the general custom. To see the name and authority both printed in the same kind of type is confusing. A little more attention should be given to the biological assays. They should not only be mentioned when a drug is thus assayed, but should be described. The authors are rather derelict in this respect, mentioning the fact that drug is assayed biologically only in the case of Digitalis and Oleum Morrhuæ. And finally it would seem best to state whose scheme of classification is being followed in the study of the drugs, or why the particular scheme used is followed since most authors now follow Engler-Gilg in their "Syllabus der Pflanzenfamilien." Two appendices are added which are quite worth while and further enhance the value of the work. Appendix I, a Glossary of Medical Terms, and Appendix II, a Glossary of Botanical and Zoölogical Terms.

Charles C. Plitt.

The Elements of Vegetable Histology. By C. W. Ballard. 2nd Edition. 289 pages, 93 illustrations. John Wiley & Sons, Inc. New York, 1926. Price $3.25.

This is a rather unusual book, unusual in the number of its defects. It is poorly conceived, and contains quite a number of conflicting or otherwise questionable statements, and some also that are certainly incorrect.

The book, first of all, is poorly conceived; no beginner would start with Chapter I, as there outlined and apply the methods outlined for infiltration, fixation and embedding of the material to be studied. All of this is

practically unnecessary in studying most of our drugs. Why not start with sectioning free hand some soaked drug, or better yet, study some bit of epidermis? Chapters I to V, Preparation of Specimens, Mounting of Specimens, The Microscope, The Chemical Reactions of Plant Tissues, and Staining can well be relegated to the Appendix, and there immediately precede Formulas, already finding a place there. Further, Chapter XIX, Microscope Accessories, can also find a place in the Appendix, immediately following the chapter, The Microscope. The reviewer believes that Chapter VI, Plant Cells and Tissues, would be the logical starting point.

As to the second part of my criticism. Botany is still unfortunately burdened with a voluminous synonymy, but every effort is being made to reduce it. Thus such terms as endosperm, periderm, vascular bundle, bark, etc., are coming to have definite meanings. It would seem then, that in a textbook, especially one for the beginner, the author should be alertly on his guard in choosing the terms he uses and in the way he uses them. He should also be careful how he explains various phenomema that arise. The author has paid little attention to these facts. Thus on pages 242, 246 and 248, he speaks of endosperm as also being stored *within* the enbryo itself, when he should well know that endosperm is a storage tissue formed by the endosperm nucleus, and is always stored *outside* of the embryo, although within the embryo sac. His definitions of periderm are conflicting; on page 95, he states that the phellogen forms periderm or bork on its outer side, on page 118, he states that the periderm consists of cork, together with parenchyma, fibrous elements and in some instances stone cells, neither of which statements is correct, periderm being all the tissues formed by the activity of the phellogen on the outside of it, phelloderm on the inside, and the cork cambium or phellogen itself. His second definition, above, is that of bork. On page 95, he calls the phellogen, the true bark, although on page 195, he states correctly that the bark includes all structures external to the cambium. His idea of the primary fibro-vascular bundle in roots, see pages 95, 97, 148, seems to be composite. For beginners, at any rate, it would seem best to hold on to the idea that this stele is of 2 or more separate radial strands of xylem and phloem and that these strands are commonly said to constitute a radial bundle, or better, since the xylem strands are often not independent, to call this condition in the primary xylem and phloem, radial arrangement. (See Introduction to Plant Anatomy, Eames & MacDaniels, page 97.) In describing secondary thickening of the primary fibro-vascular bundle of the root in certain orders of plants on page 95, after stating that a cambium develops, he continues "The cambium occurs on the outer face of each xylem bundle and on the inner face of each phloem bundle," which, of course, is not quite true. The cambium forms only on the inner face of each primary phloem strand, and these arcs of cambium meet in the pericycle, thus completing the ring. His idea, that the strips of tissue between the xylem strands and the phloem strands, page 94, form the primary medullary rays, is also erroneous. These primary medullary rays, he will note, if he examines his figure 35, on page 99, reprinted from "Text-book of General Botany," by R. M. Holman and W. W. Robbins, are generally laid down by the cambium, finally flanking the primary xylem strands. As to the pericycle, the author at no place describes it. In his diagram on page 90, figure 29, showing the primary tissues as found in the root, there is no pericycle shown, and the phloen strands extend to the endodermis. The same mistake is found on page 151, figure 54-B, where xylem and phloem extend to the endodermis. On page 148, he states that radial fibro-vascular bundles are found in all young roots and may even be present in mature monocotyledonous roots. On page 150, he states that concentric fibro-vascular bundles occur only in monocotyledonous roots and stems. On page 179, he again states that concentric and closed collateral types of fibro-vascular bundles are present in the primary roots of monocotyledons. Neither concentric nor closed collateral fibro-vascular bundle is ever found in the primary root of monocotyledons. It is the so-called radial fibro-vascular bundle that is characteristic of primary roots.

There are, too, quite a number of "slips," the author evidently not meaning what he there states. For example, on page 80, he states that saffranin colors lignified walls blue; and on page 10, where he cautions about the position of the knife in cutting embedded material, stating that for paraffin embedded material, it should be held at an angle, and for celloidin embedded material, it should be placed straight, when the opposite is correct. On page 125, he calls wood and bast fibres con-

ducting tissues, instead of supporting tissue; and on the same page, he states that wood fibres are thicker-walled than bast fibres, whereas the opposite is most often true. Again on page 133, where he describes "parasitic plants as those which gain their nutrients by burrowing into the tissues of other plants, they are usually lacking in root hairs, but absorption of water may take place in this type of plants through the modified epidermis of the aerial roots which are usually present." On page 27, he calls the converging concavo-convex lens, a convexo-convex lens, which really is another name for the double convex lens; and the diverging concavo-convex lens he calls a concavo-concave lens, which is another name for the double concave lens. There are other such "slips,"but the above will suffice. Rather unwise indeed, it seems to the reviewer, to put a book of this kind in the hands of the unsuspecting beginner in vegetable histology.

CHARLES C. PLITT.

The following four reviews are by Otto Raubenheimer.

A Handbook of Elementary Chemistry for Students of Medicine, Dentistry and Pharmacy. BY J. C. ATTIX, M.S., D.D.S., M.D., Pharm. D., 2d Edition, 12 mo. 278 pp. Cloth, $3.00. Lea & Febiger, 600 S. Washington Square, Philadelphia.

The author is Professor of Chemistry and Toxicology in the Medical and Pharmaceutical Departments of Temple University and consequently writes with some authority. This little book is not intended to displace the larger works on chemistry, but is planned for the student as a handy little reference book and as the title states, "A Handbook of Elementary Chemistry."

Part I, on 72 pages, deals with Physics, Chemical Philosophy and Laboratory Methods.

Part II, on 148 pages, comprises the Elements and their Compounds.

Part III, on 44 pages, contains Qualitative Analysis.

The 23 illustrations help to elucidate the text. On p. 106 the author correctly states that the name Bromine is derived from the Greek word "bromos" meaning "stench." On p. 77 he states, incorrectly, that ozone means "stench." This should be corrected as its discoverer C. F. Schoenbein at Basel named this allotropic form of oxygen "Ozone" from the Greek "ozein" meaning "to smell." After all, there is a difference between "smell" and "stench."

Aus dem Reiche der Drogen. Geschichtliche, Kulturgeschichtliche und Botanische Betrachtungen über wichtige Drogen. VON DR. E. GILG UND DR. P. N. SCHÜRHOFF. 272 pp. cloth $3.50. Schwazeck-Verlag. Dresden N. 6, and B. Westermann Co., 13 W. 46th St., New York City.

Never in the course of history has History itself been so generally popular as it is to-day. This also pertains to history of Pharmacy. May I remind the readers of the foundation of the Society for History of Pharmacy and the publication of Prof. LaWall's excellent book, "Four Thousand Years of Pharmacy." Truly two achievements within a short period to be proud of.

The volume before us is from the pen of two professors of botany and pharmacognosy at the University of Berlin. It treats the history, the botany and pharmacognosy of the principal drugs, as for instance: Cinchona, Glycyrrhiza, the Solanaceae, Strophanthus, Nux Vomica, Sambucus, Cannabis, Yohimbe, Guaiac, Sarsaparilla, Rhubarb, Opium and Cantharides. Truly a variety of subjects of interest to pharmacists. The book is profusely illustrated, some of which I beg to point out: Collection of Pepper, p. 91, Corigliano Licorice Factory, p. 138. Preparation of Curare by South American Indians, p. 173. Smoking Haschisch, p. 193. Monardes, p. 216. Schleiden, p. 217. Leuwenhoek, p. 221. Collection of Opium, p. 250, Sertürner, p. 254. Opium Pipes, p. 250.

The volume contains a mint of knowledge. It is a story which will not only stimulate but inspire every pharmacist, a story which gives an accurate account of the evolution of these drugs, a story which gives the pharmacist a better insight and a bigger grasp on his profession. Every pharmacist who is interested in his profession should read this book.

Science: The False Messiah. BY C. E. AYRES. 8 vo. 296 pp. Cloth $3.00. The Bobbs-Merrill Co., 18 E. Vermont St., Indianapolis.

Here is a brilliant book by a brilliant young philosopher, who has taught this subject at Brown, Chicago, Amherst and Reed Universities. He has something to say in this book that is better to the scientists and to a civilization that worships science. Like the reformer Luther, he proposes 23 (mark the number) Theses to be mailed to the Laboratory Door, some of which I want to point out:

1. That the truth of science is established