

BOOK NOTICES AND REVIEWS.

The Chemistry and Analysis of Drugs and Medicines. By Henry C. Fuller. Published by John Wiley & Sons, Inc., New York. 1072 pp., index inc. Price, \$10.00.

A book that will be welcomed by all who are interested in the investigation and analysis of drugs and medicines. It is a pleasure to read it, although it is impossible to review it with justice in the space allotted for this purpose.

"Whoever has taken up an investigation of drugs and medicines, whether in the line of analysis or research, must have been impressed with the fact that there has been no individual publication dealing with analytical procedures applicable to the subject as a whole.

"The analyst could turn to the Pharmacopoeia and National Formulary for methods of assaying and testing the official drugs, and to other works such as Autenreith and Warren's 'Detection of Poisons,' 'New and Non-Official Remedies' published by the American Medical Association, and the publications of the Association of Official Agricultural Chemists, where he would find information and perhaps methods applicable to certain classes of drugs and medicinal agents, but there has been no general analytical work embracing this branch of chemistry. The food analyst could turn to Leach's 'Food Inspection and Analysis,' and there find complete and latest methods for solving his analytical problems, but the drug analyst was less fortunate, and when presented with a problem of analysis outside the usual run of drug assaying, there was involved a long search through the available text books, technical journals, and official publications before a satisfactory procedure was found, if any existed.

"The work in hand has been published in order to remedy this situation.

"The material for it has been collected during the past seventeen years, and has been arranged in a way which it is believed will be found convenient to the worker who is handling miscellaneous analytical investigations."

The above, taken from the introduction, expresses the purpose of the book. The book fulfills the author's purpose.

Chapter I deals with general analytical methods. Crude drug assays are covered in Chapter II. In addition to the U. S. P. assay methods, one finds many others. Under

Belladonna both U. S. P. VIII and U. S. P. IX methods are given and the author expresses his preference for that of the U. S. P. VIII. Several methods for the assay of opium are given. Among other drugs for which one or more methods are found, are rhubarb, pomegranate bark, mustard seed, hoang-nan and anhalonium. The "Lloyd Procedure" and "Physiological Methods" are described. The above are mentioned to direct attention to the thoroughness with which the author has treated his subject. This is true throughout the entire book.

Part II, comprising Chapters III to IX, inclusive, pages 71 to 281, is devoted to the alkaloids. After a description of general methods of separation and identification, the alkaloids are taken up in the following order: Alkaloids derived from pyridin; from pyrrolidin; from quinolin; from isoquinolin; those which probably contain a pyridin-nucleus, condensation unknown; those containing no pyridin nucleus; those of unknown composition. The source of the alkaloid is given, where it is found in the plant and in what combinations; how the plant, its preparations or the alkaloid are employed; in what kinds of galenicals and proprietaries it might be found; its therapeutic properties, real or claimed.

The alkaloid, its tests, compounds and in many instances its synthesis as well as method of termination are described. A few citations appear in order: Microchemical examination of alkaloids; Cytisin; Delphinium Bases; sixteen pages devoted to Solanum alkaloids; twenty-nine pages to Cinchona alkaloids and derivatives; Yobimbin; thirty-nine pages to Opium alkaloids and preparations containing them., *viz.*, paregoric, tablet triturates; pills, separation of morphine from heroine, etc.; nine pages to alkaloids of the Aconite Group; and so on. The so-called "synthetic anesthetics" are discussed immediately after the Coca alkaloids.

Part III, comprising Chapters X to XIV, deals with Glucosides; Purgative Drugs; Miscellaneous Acting Drugs; Botanical Drugs; Gums and Resins. In addition to the detailed technical facts, a great amount of general information of untold value to one engaged in the analysis of medicinal mixtures is given.

Chapter XV is devoted to hydrocarbons, alcohols and ethers; XVI to aldehydes and ketones; XVII, aliphatic acids; XVIII, aro-

matic acids; XIX, esters and phenols; XX, synthetic organic nitrogen compounds; XXI, anilides and phenetidines; XXII, organic arsenic compounds; XXIII, proteins and digestives; XXIV, oils.

Part V, Chapters XXV, XXVI and XXVII deal with the inorganics. Here we find the colloidal preparations of silver, mercury, etc.; the scale salts of iron, etc. In Chapter XXI, we find methods for the examination of "head-ache powders;" mixtures of acetanilid, quinine and morphine; of codeine, acetanilid and sodium salicylate, etc.

The amount of valuable information supplied by this one volume is astounding. It is bound to be a wonderful "time-saver" for the analyst, teacher, physician, research worker and drug official. All will ever want to have it within reach.

Of course in such a large undertaking some errors and inconsistencies were bound to creep in. The author has adopted the pharmacopoeial "mils," but drops the "e" from all alkaloids. "Chlorid" and "chloride" appear side by side as do "hydrochloride" and "hydrochlorate." We have "petroleum ether," "light petroleum ether" and "petroleum spirit;" we find the halogens with and without the final "e." The author prefers "ethereal salts" to "esters." The author has dropped the "V. S." so familiar to users of the U. S. P., using simply N/10, but under his list of reagents, he adheres to the expression of concentration in terms of per centum. Is it not more definite to express these in terms of normality? The statement is made that "methyl alcohol has only a limited use in medicinal preparations. It is employed as the vehicle in some liniments and 'balsams.'" Unless the writer is mistaken, such use is prohibited by law. These inconsistencies will undoubtedly disappear in future editions, and do not make the book one bit less valuable.

The index is somewhat of a disappointment, *viz.*, paregoric is not found under "P," but when one looks up morphine, one finds the assay method for the former. Lysol and creolin are not mentioned in the index although they are spoken of under the cresols.

The press-work is excellent, formulas are clear and distinct. The graphic ones are a pleasure to the eye. An immense amount of careful proof-reading has been done. The topics are conveniently arranged.

Mr. Fuller's ambitious efforts entitle him

to congratulations and thanks from the many who will find his volume a necessary part of their every-day working library.

JEANNOT HOSTMANN.

A Treatise on Pharmacy. For Students and Pharmacists. By Charles Caspari, Jr., late Professor of Pharmacy in the Department of Pharmacy of the University of Maryland (Maryland College of Pharmacy, 1841 to 1904). Sixth edition, thoroughly revised by E. F. Kelly, Dean and Professor of Pharmacy in the Department of Pharmacy of the University of Maryland (Maryland College of Pharmacy, 1841 to 1904). Octavo, 954 pages, illustrated with 329 engravings; cloth, \$8.00. Lea and Febiger, Publishers, Philadelphia and New York, 1920.

The fifth edition of this work appeared in 1916 following the publication of the U. S. P. IX. Since that time Prof. E. F. Kelly has succeeded Prof. Charles Caspari, Jr., following the death of the latter, as Professor of Pharmacy in the Department of Pharmacy of the University of Maryland, and on account of long association with the author of "Treatise on Pharmacy," Professor Kelly has fittingly undertaken the revision of this well-known work now appearing as the sixth edition.

The purpose and plan of the "Treatise on Pharmacy" remains the same. A chapter on Light and a chapter on Sterilization have been added; the chapters in Part II rearranged and other deletions and additions made, all with the intent to make the "Treatise on Pharmacy" better fulfill the purpose of the author.

Part I treats of General Pharmacy and the new chapters on Light and Sterilization are timely and well placed. Chapter V. Light. A discussion of light in relation to pharmacy treats of the importance of colors as a part of official descriptions, the use of colors in colorimetric determinations and the effect of light upon bacteria, organic solutions and preparations. The use of the polariscope in the determination of optical rotation and the refractometer for refractive index are described and explained. Chapter XII. Sterilization. The subject matter has been largely taken from the U. S. P. and N. F. discussions on this subject with additional matter of practical value to the pharmacist.

In Part II on Practical Pharmacy the author has prepared lists of U. S. P. and N. F. galenical and extemporaneous preparations with Latin and English titles and concise statements as to