

structural interpretation of these complex compounds which for so long a time baffled the organic chemist. But here also, in spite of the progress, only a beginning has been made, as becomes apparent from the large number of the numerous isomers  $C_{15}H_{24}$  still in the lumber chamber. As to the groups of diterpenes, triterpenes and polyterpenes, we have reached a stage comparable to that of the sesquiterpenes a generation ago.

Great progress has been made in organic synthesis since Berthelot, in the early sixties of the past century, published his "Chimie organique fondée sur la synthèse" and since Kekulé gave expression to his structural theories. To-day the pendulum seems to have swung in the other direction once more. We are no longer interested as intensely as formerly in mere synthesis, but we use it as a tool in proving the structure of compounds that interest us biochemically first and foremost.

Fortunate, indeed, is the age in which theory and practice combine to solve its problems.—E. K.

A. Gamir, *Farmacologia de la Digital, Editorial Paracelso*; Madrid, 1931; 308 pages. Price 7 pesetas. Published by A. Gamir. This beautifully printed monograph should appeal to all those who are interested in the pharmacology of digitalis whether they be pharmacologists, pharmacists or clinical practitioners. The work is a monograph sponsored and paid for by A. Gamir, who is a prominent pharmaceutical philanthropist occupying in Spain a position not unlike that of Dr. H. S. Wellcome in England. This gentleman is evidently anxious to promote the advancement of pharmacy and materia medica in Spain and for that reason has engaged the coöperation of scientific specialists for the compilation of the present volume. Judging from the prologue written by Dr. Obdulio Fernandez, who is professor of chemistry on the pharmaceutical faculty of the University of Madrid, the object of the monograph is to bring together in convenient form all the salient facts concerning digitalis from the earliest times to the present day for the use of pharmacists and physicians; and the author has certainly succeeded in writing a most interesting informative treatise on the subject.

The work begins with a chapter on the history of digitalis and in this connection does not content itself merely with citing the classical work of Withering but also includes references to other worthies who worked with foxglove from the earliest day until now; and

mention is made of such men as Stokes, Cullen, Farriar, Fowler, Salmon, Haase, Homolle, Walz, Schmiedeberg, Kiliani and the more recent investigators, Windaus, Kraft, Cloetta, Magnus, Cushny and others. Chapter II, entitled, *Filologia*, is really a botanical treatise, covering 12 pages of text, on various species of digitalis. Chapter III introduces a newly coined word, "*Farmacoergasia*," which deals with the culture of the foxglove, its collection, drying of the leaves and conservation; and Chapter IV is devoted to the pharmacognosy, both microscopical and chemical. A fifth chapter, embracing 32 pages, deals with the materia medica of various preparations of digitalis. In Chapter VI fourteen pages are devoted to the pharmaceutical chemistry of digitalis leaf and the active principles contained therein. This chapter is very much up-to-date and contains a great deal of useful information for those interested in the chemical aspects of digitalis and related bodies. The researches of Kiliani, Windaus, Cloetta, Schmiedeberg and a host of other original workers in this field are succinctly set forth and should furnish a convenient starting-point for further researches along this line. Chapter VII is devoted to the pharmacology proper—that is, to the pharmacodynamics—of digitalis and deals with the absorption of the drug, its elimination, its effect on the heart, blood vessels, kidneys, respiration and various other physiological functions of the body as well as with the cumulative effects of the digitalis glucosides. Chapter VIII, embracing 25 pages, is a strictly pharmacotherapeutic treatise on the clinical uses of digitalis, discussing those clinical conditions in which digitalis is indicated and others in which it is contraindicated. Chapter IX devotes 50 pages to a detailed description of the various methods of digitalis assay. The pharmacologist and the pharmacist engaged in bioassay will find this chapter of special interest as it discusses all the various methods employed in assaying digitalis both by chemical and by physiological means. Here are described not only the standard and older methods of digitalis assay but also the more recent innovations in this field. The standard frog and cat methods are given in full and include comments on the work of the International Committee on Digitalis Standardization and the statistical researches of Lind van Wijnngaarden. Among the most recent contributions on the subject included in this chapter are references to the Knaffl-Lenz method of

digitalis assay, studies with the electro-cardiograph, Hanzlik's tests on the emetic effect for pigeons and the phytopharmacological methods of Macht and Krantz. Posology, or dosage, is discussed in Chapter X and here again the reader is struck by the author's acquaintance with the most recent views on the subject. Thus, for instance, full information is given in regard to the views of Eggleston, Fraser, Pardee, Mackenzie and de Josué. Chapter XI is devoted to toxicology and includes an exhaustive treatise on the various chemical and pharmacological methods of detection of digitalis in cases of poisoning. A well selected bibliography completes this valuable monograph.

A review of the book would not be complete without a word of unstinted praise for its exceptionally pure, clear and elegant Spanish and the excellent literary style of the work wherein the author reveals not only his familiarity with the subject but also his skill in *belles-lettres*.—DAVID I. MACHT.

#### *Therapeutics, Materia Medica and Pharmacy.*

The special therapeutics of diseases and symptoms, the physiological and therapeutical actions of drugs, the modern *materia medica*, official and practical pharmacy, prescription writing and antidotal and antagonistic treatment of poisoning. By SAMUEL O. L. POTTER, A.M., M.D. Fifteenth edition, revised by R. J. E. Scott, M.A., B.C.L., M.D., Editor of Witthaus' Textbook of Chemistry, Witthaus' Essentials of Chemistry and Pharmacology, Hughes' Practice of Medicine, "The Practitioners Medical Dictionary," "Gould's Medical Dictionary," "Gould and Pyle's Cyclopedia of Medicine and Surgery," etc. Published by P. Blakiston's Son & Co., Inc., Philadelphia. About 1000 pages. Price \$8.50.

Former editions of this well and favorably known work have been reviewed in these columns, the last one being the 14th edition and reviewed on page 614 in the July JOURNAL for 1926. The fact that it has been deemed necessary to prepare another revision, speaks for the favorable reception the prior edition has received. In the fifteenth edition no change has been made in the general plan and principles originally adopted by the author, hence the statements made relative thereto in the previous review are applicable. Much new material has been added and some statements have been modified, so that few of the

articles in Parts I and III remain as they were. The official preparations of the *Materia Medica* have been brought into conformity with U. S. P. X and the fifth edition of the National Formulary.

A general idea of the contents is given in the following:

The Introduction deals with drugs in a general way—pharmacology, pharmacy, *materia medica* and therapeutics. The constituents of organic drugs are discussed under respective headings and the classification of medicines is alphabetically arranged. This information is followed by a discussion of the various methods of the administration of medicines, their dosage, accumulative action, and this is followed by memoranda on other effects than those expected by the prescriber.

Part I deals with *materia medica* and therapeutics and the arrangement is alphabetical.

Part II is concerned with pharmacy and prescription writing which deals with pharmacopœias and dispensaries, weights and measures, and how these are used in prescriptions, incompatibilities which may result, extemporaneous and official pharmacy; the various preparations, under respective headings are given in alphabetical arrangement.

Part III is concerned with special therapeutics, including also toxicology. The appendix includes Latin in the designation of preparations and in writing prescriptions, legislation applying to the prescribing and dispensing of narcotics; an alphabetical list of preparations and a series of useful tables.

*Drug Store Business Methods.* A textbook on commercial pharmacy by CHARLES W. PEARSON, A.B., M.B.A., formerly associate professor of Commercial Pharmacy of the Massachusetts College of Pharmacy, Boston, Mass. Second edition, 12 mo., 298 pages, illustrated. Cloth, \$2.75 net. Published by Lea & Febiger, Philadelphia.

The first edition of this book, published in 1926, was reviewed in the JOURNAL for February 1927. There is very little change in the book, hence an extended review is not called for. One criticism might be offered in that there is not sufficient detail given to the subjects which would add practical information for the student and the same applies to the store owner. The contents of the book is divided into salesmanship, advertising, accounting for retail drug stores, business law and store management.