

tary John Culley, of the Utah Association, with President C. W. Johnson, and other association workers. Aside from exhibiting a fine spirit of coöperation the results will prove of value to all the organizations participating.

DUQUESNE UNIVERSITY.

The third anniversary of the establishment of the School of Pharmacy of the Duquesne University will be celebrated on April 20th. J. Arthur Bornmann has been added to the faculty and is giving a course in business practice. Dr. H. H. Sullivan is instructing the students in first-aid.

UNIVERSITY OF BUFFALO.

The twenty-eighth annual University Day Convocation of the University of Buffalo was held in Edmund Hayes Hall, February 22, 1928. The event marked the dedication of the new building named Edmund Hayes Hall in memory of General Edmund Hayes whose generosity

made possible the construction of the building. This Convocation was the first public function held in the new auditorium.

Students in the University of Buffalo School of Pharmacy recently enjoyed a splendid illustrated lecture on, "Immunology and Serum Therapy" given by Robert J. Ruth. This lecture was the first in a series to be given during the second semester by specialists in various subjects allied to the practice of Pharmacy.

On Saturday evening, March 10th, T. G. Williams, a graduate of the School of Pharmacy, University of Buffalo, delivered a very interesting talk on the subject, "The Place of the Druggist in the Community." This talk was one of a series, broadcast every Saturday evening at 7:30 and sponsored by the University of Buffalo Alumni Association.

Dean Gregory attended the recent sectional conference of members of Boards of Pharmacy and teachers in Schools of Pharmacy held in Baltimore.

BOOK NOTICES AND REVIEWS.

Pharmacotherapeutics. By SOLIS-COHEN AND GITHENS. Publishers, D. Appleton & Co., New York. Price, \$15.00. Even a superficial examination of the work before us reveals that it is different from the ordinary run of books. While we cannot perhaps concede the claims of the publishers to its being "the most exhaustive and at the same time the most practical single volume presentation in the English language" we do not hesitate to state that this is certainly the most comprehensive and practical work on drug therapy in English. This work which has, for convenience, been gotten out in a single volume of 2009 well-printed pages of text, on fine thin paper, could easily have been edited as a system of pharmacotherapeutics in two or three volumes, of the sort that are usually published by medical book houses. The present form, however, makes it extremely handy and useful as a reference book for the physician, the student and the pharmacologist.

The present work is unique especially in one respect which can be described best by quoting a paragraph from the preface. "In this work the endeavor has been made to set forth what is known of drug action—pharmacodynamics—as ascertained by exact methods of study, and to emphasize the uses of drugs that may be based thereon; but also to call attention to empirical measures not based on known pharmacodynamic data, but having reasonable evi-

dence of usefulness. For this and other reasons, the drugs here discussed have been classified according to their chief uses—in the main, a clinical classification, having in view the needs of practice, but always with due regard to chemistry and pharmacodynamics."

This is a joint work embodying, on the one hand, the experience of a widely known practitioner of medicine who has specialized on the subject of therapeutics, and, on the other hand, of a pharmacologist of equally well-known and well-established reputation.

We find here the latest information on pharmacodynamics side by side with an abundance of empirical data which are of immense value to every one who is interested in the treatment of disease by means of drugs. The work can be spoken of as encyclopedic in character because in addition to clinical and pharmacological data a great deal has been incorporated bearing on other medical series as well as of chemistry, physics and history of medicine. Thus for instance under the chapter dealing with Drug Influence the author gives a description of physical chemical facts bearing on such phenomena as Osmosis, Electrolytic Dissociation, Hydrogen-Ion Concentration, Behavior of Colloids, Enzymes, etc. In addition to the ordinary pharmacological data to be found in most textbooks we find here an extensive and instructive discussion of chemical

structure bearing on various drugs. Thus, for instance, as we turn over the pages we find the chemical structural formulas of various alkaloids, anthelmintics, essential oils and other drugs. We note the constitution and structure of Cantharidin, Santonin, Pyrethrum, Ascaridol, Aspidin, Filmaron, Chaulmoogra oil, Pinenes Terebenes, etc., many of which are not to be seen even in textbooks of pharmacology.

The classification followed in this work is a rather novel one, especially as regards the nomenclature employed. The authors divide the remedial agents into three groups or orders. The first order bears the heading of Antipathogens and deals with remedies used to combat the causes of disease. Here, of course, are included antiparasitic agents, antiseptics, biological antipathogens such as viruses, antitoxins, etc., and the classical chemotherapeutic drugs. The second order is spoken of as Tissue Alterants and includes a discussion of drugs employed chiefly for their topical effect. In the third order the authors include all kinds of drugs which they describe as Function Modifiers. Here are treated drugs acting on the alimentary cause, drugs acting on the blood, and blood forming organs, drug acting on the cardiovascular system both of the stimulating and depressant type, drugs acting on the respiration, drugs acting on the metabolism, drugs affecting the body temperature, drugs acting on the genito-urinary organs, drugs acting on the skin and appendages, drugs affecting the nervous system, etc. This last order is, of course, a very comprehensive one and may be challenged by pharmacologists as well as clinicians as inappropriate. Many would be inclined to classify such agents as the digitalis bodies, the endocrine products, etc., as reagents affecting the etiological or causative factors producing disease. The classification, however, is of small importance.

It is the description of the therapeutic properties of the various drugs that is of special interest in the present work.

The great or leading drugs employed in pharmacotherapy have certainly received full and adequate attention. The discussion of digitalis bodies covers some thirty-six pages and the authors have also given an excellent résumé of other groups of heart drugs including some of the very recent developments along that line such as cardiazole, and various newer camphor derivatives. The *Materia Medica* of Ferrum alone covers eight and a half pages. A discussion of mercury extends from page 656 to

712. A great deal of attention is given to the consideration of chemotherapeutic properties of such heavy metals as antimony, bismuth, lead and arsenic and even the rarer members of this group such as tin, nickel and vanadium, etc., are also briefly mentioned.

The work is replete with information not only on therapeutics but also on toxicology a subject which, of course, cannot be separated from any complete pharmacological discussion. There is even a section dealing with poisonous war gases. True to their purpose of presenting not only well-established pharmacodynamic remedial agents but also empirically useful drugs the authors have devoted a good deal of space to a description and discussion of substance not usually receiving much attention in other texts. Thus, for instance, the astringents cover some thirty-six pages including, a very full *Materia Medica*. There are a great many valuable and historical notes and allusions which lend an additional interest to the reading matter. Thus, for instance, a discussion of various medical cults such as homeopathy, eclecticism, etc., can be found here. There is also a useful discussion on such general subjects as dosage, conditions affecting action, indications and contraindications to the use of certain drugs, the employment of chemicals or drugs for testing of liver function, kidney function, etc., and last but not least one other gratifying feature, namely, an adequate discussion of pharmacy in relation to therapeutics which the authors say is too much neglected by both medical men and medical schools. An appendix contains table embodying such information as is usually found elsewhere, weights and measures, temperature scales, incompatibilities, treatment of emergencies, Latin terms and abbreviations, and also a copy of the Federal Narcotic Laws. We cannot give too great a praise to this work, both in respect to the information it contains and also because of the unique attitude of the authors referred to in the beginning of this review, namely, in combining scientific pharmacology with useful clinical empiricism, which latter is one of the greatest sources of material at the disposal of the true scientist to be drawn upon for further investigation. It is a pity that the authors did not include a full bibliography, but that would have made the work very much more bulky, and the authors have in part contributed in this respect by quoting the names of well-known authorities along with the text.

DAVID I. MACHT.