

with hydriodic acid or oxalic acid showed a similar effect.

Freshly prepared chlorine solutions in water, acidified with a small amount of diluted sulfuric acid, extended the action of chlorine in the presence of an abundance of serum for a period ten times as long as that observed for unacidified solutions of the same chlorine content. A more detailed report on the effect of low p_H germicides, in the presence of heavy organic matter, will be given in the near future.

REFERENCES

- (1) *JOUR. A. PH. A.*, 27 (1938), 1233.
- (2) *J. Am. Med. Assoc.*, 108 (1937), 280.

Book Reviews

Chemicals of Commerce, by FOSTER DEE SNELL and CORNELIA T. SNELL, viii + 532 pages, 5 $\frac{1}{2}$ x 8 $\frac{1}{2}$. 1939. New York: D. Van Nostrand Co. Price, \$5.00.

In this volume, all chemicals offered on the market in sufficient quantity or usefulness to justify their consideration are discussed. There are short monographs on each chemical giving practical information on its general properties and uses. The monographs on related materials are grouped into chapters. It is believed that the book will serve the pharmacist as a useful source of information which is not available to him in pharmaceutical publications.—A. G. D.

The Story of Vitamin B₁, compiled by C. R. ADDNALL, Merck and Company, Rahway, New Jersey Revised Edition, 1940, 72 pp.

The revised edition of this booklet follows the same arrangement as the first edition (1937) and maintains the same high degree of excellence in telling the story of vitamin B₁. It is well documented with hundreds of references to the original literature, but it is more than a bibliography. It presents in a terse and interesting manner a résumé of the available information concerning the isolation and synthesis of vitamin B₁, its properties and methods of standardization. The chapters relating to the physiological action of thiamin and its role in diet and nutrition have been brought up to date by additional information and literature citations. The chapters on vitamin B₁ in plant growth should be of special interest to biochemists and plant physiologists. The booklet possesses a well-planned and entirely satisfactory index. It is not for sale, but is supplied only to those who have use for the information presented.—J. L. P.

History of Pharmacy—A Guide and Survey, by EDWARD KREMERS, Ph.G., Ph.M., Ph.D., Sc.D., Former Director, of the Course in Pharmacy and Professor of Pharmaceutical Chemistry, University of Wisconsin, author, editor and historian, and GEORGE URDANG, Ph.G., Sc.D., Nat. Honorary Member of the AMERICAN PHARMACEUTICAL ASSOCIATION, Former Editor of the *Pharmazeutische Zeitung*, Former Director of the Society for the History of Pharmacy, Berlin, author and historian. Thirty illustrations. Published by J. B. Lippincott Co., Philadelphia, London, Montreal. Price \$4.50.

The senior author states in the preface that he has desired and had the intention for a number of years to write a history of pharmacy—for pharmacists. He states that well-meaning friends have prodded him on to the task, and he ascribes insufficient time and energy rather than lack of willingness to undertake the work. Evidently the opportunity was presented to him by his co-worker and colleague, Dr. George Urdang, to whom Dr. Kremers gives credit for preparing the plan and continuation of studies. Dr. George Urdang has made the acquaintance of many American pharmacists and has participated in the activities and proceedings of the profession in this country. Before leaving Berlin, he collaborated with Dr. A. Adlung in the publication of a volume of the History of Pharmacy and the German National Pharmaceutical Association. In this connection, the reviewer suggests to the readers the re-reading of the "Introductory Lecture to a Course in the History of Pharmacy" by Dr. Kremers and the discussion following on pages 1270–1279 of the *JOURNAL* of the A. PH. A. for 1933 and a study of the preface to the volume under review.

The contents are divided into four parts in the order of periods and developments to which notes are given in the following: Part I, Early Backgrounds in the Old World; Ancient Civilization and Ages. Part II, The Rise of Professional Pharmacy in Europe; Medical Theories and Materia Medica—the Developments in Italy, France, Germany, England; International Trends. Part III deals with the history of pharmacy in the North American Colonies up to the Revolutionary War and brings out the events of the Young Republic and Pioneer Expansion; Growth of Associations—Local, State, National; History of Legal Regulation; Development of Pharmaceutical Education; Establishment of a Pharmaceutical Literature; Relation of the Pharmacist to Society, etc. Part IV is devoted to a review of the contributions of pharmacists to science and industry. Each chapter contains much that is informative and interesting. In addition, volumes of information are presented bibliographically, which adds greatly to the usefulness of the book to students and teachers and as a historical record. American pharmacists and those of Europe know the senior author, and the co-worker is becoming well and favorably known to American pharmacists, as heretofore stated. It is, therefore, unnecessary to extend the length of this review. Suffice it

to say that the authors have contributed a valuable service by making available to students of pharmacy and others a wealth of historical information on the development of pharmacy in this country.—E. G. E.

Applied Pharmacology, by HUGH ALISTER MCGUIGAN. 914 pages. St. Louis: The C. V. Mosby Company, 1940. Price, \$9.00.

This interesting handbook on pharmacology contains more than nine hundred pages and many illustrations. To the reviewer the most striking feature of this work is the peculiar and almost extraordinary arrangement of subject matter, the book differing from most texts in not being divided into chapters but having instead a great many sections with headings in large and small bold-faced type. It would stretch one's candor too far to state that the classification employed is a logical one; in fact, in grouping or subdividing various subjects, the book follows no special criterion as do most texts on pharmacology. Some of the subdivisions have a solely physiological and others a chemical basis. Still others are purely pharmaceutical in character while there is a sprinkling of topics which cannot be classified at all. Thus, for instance, "crocodile tears" are relevant to no strictly pharmacological subject al-

though the bit of information given under this title is of interest from the standpoint of popular science. Discussed under strictly physiological headings are the effects of drugs on respiration, on the heart and circulation, on the central nervous system, on the kidney, the liver, the uterus and the muscles; on salivary glands, on deglutition, absorption through the skin, vision and other physiological functions but intermingled with this rational physiological classification are topics of purely chemical nature such as the acids, alkalis, halogens, dyes and similar groups. Again, many of the sections bear such purely pharmaceutical titles as astringents, soaps, gargles, expectorants and hypnotics. On the whole, however, the book contrives to cover fairly well the whole field of pharmacology as it is taught in the average medical school, and it is up-to-date in that it includes adequate discussions on chemotherapy, vitamins, hormones and proteins (sera, etc.) in relation to therapeutics. Many well-known pharmaceutical preparations, such as mercurochrome, for example, receive no other notice than a listing in the long catalogs of materia medica contained in this volume. The book has many admirable features. Thus, for instance, there is no cluttering of the pages with abstruse chemical formulas. Some of the diagrams are very instructive and enlightening and the text is generally clear although the literature throughout is scanty and inadequate.—D. I. M.

NOTICE

A. PH. A. Research Fellowships

The Committee on Pharmaceutical Research of the AMERICAN PHARMACEUTICAL ASSOCIATION, announces the availability of certain limited funds for the establishment of research fellowships for the school year 1941-1942, and invites applications for these grants. The allowance in each case is usually from \$300 to \$400.

These grants are to be made by the Council of the AMERICAN PHARMACEUTICAL ASSOCIATION on the recommendations of the Committee on Pharmaceutical Research. They are to be made on the following basis:

- (a) The extent to which the award will serve to promote Pharmaceutical Research.
- (b) The extent, if any, to which the work supplements the program of the AMERICAN PHARMACEUTICAL ASSOCIATION'S Laboratory.
- (c) The qualifications of those who will perform the work for which the award is made and the facilities of the laboratory wherein the research will be conducted.
- (d) Preference will be given to applications wherein it is indicated that the award will supplement a contribution from the institution or laboratory in which the research will be conducted.

Application blanks may be obtained from the Chairman of the Committee on Pharmaceutical Research (Francis E. Bibbins, R.R. 16, Box 728-B, Indianapolis, Indiana). These blanks with all details necessary to evaluate the projects must be returned to the Committee not later than May 15, 1941.

Announcements of the awards will be made early in the summer.

Signed: Francis E. Bibbins, *Chm.*