

or groups, there are given, under each basic element or acid, the names and formulas of the pharmaceutically important salts, those which are "official" being indicated by the legend U. S. P. In connection with the various reactions there are given unfinished equations which the student is supposed to finish. These features give to the book a value for students' use that it would not have were it only a book of directions for him to follow to get certain results. It makes the manual very much less an example of the cook-book type so common among books on qualitative analysis. While intended primarily as a college laboratory manual, it could also be of use to the busy operator of the store laboratory. F. P. STROUP.

*Systematic Organic Chemistry: Modern Methods of Preparation and Estimation.* By William M. Cumming, I. Vance Hopper and T. Sherlock Wheeler. pp. xxii + 535. D. Van Nostrand Company, New York, 1924.

According to the authors, all of whom are British chemists, this work is intended as a complete laboratory guide to the preparations and estimations of organic chemistry for undergraduate and post-graduate students. The work is divided into four parts which comprise forty-four chapters.

Part I includes some suggestions of practical value to laboratory students and a description of methods for conducting various operations, such as crystallization, determination of melting point and boiling point, distillation, sublimation, filtration, the drying of solids and liquids, heating under pressure, the determination of the density of liquids and use of the polarimeter.

Part II, which is by far the largest section of the book, treats of synthetic methods which involve the linking of carbon to carbon, of hydrogen to carbon, of oxygen to carbon, of nitrogen to carbon, of sulphur to carbon, of halogens to carbon, of hydrogen to nitrogen, and the linking of nitrogen to nitrogen. Under these general headings a very large number of processes and chemical reactions are described to illustrate the methods of preparation of various organic compounds. The different classes of compounds thus considered include, for example, the alcohols and phenols, aldehydes, ketones and acids, ethers, esters, and acid anhydrides, sulphonic acids, nitro compounds, and those containing the amino group. Short chapters are devoted to dyes, synthetic drugs (chloralamide, aspirin, arsenic acid, anti-pyrine, veronal, sulphonal and phenacetin),

electrolytic preparations (benzaldehyde, iodoform, methyl alcohol and borneol), and products from natural sources. Under the latter heading only quinine sulphate and caffeine may be considered of special pharmaceutical interest, but no reference is made to the alkaloids occurring with quinine in cinchona bark and their separation, especially quinidine, and the methods of preparation are not such as would be technically employed.

Part III comprises chiefly a description of methods for the quantitative estimation of carbon and hydrogen, nitrogen, halogens and sulphur in organic compounds, and for the determination of molecular weight, together with the estimation of various groups and some individual substances.

Part IV contains a list of reagents, test papers and solutions, and tables indicating the strength of the more commonly used acids and alkalis. In a final chapter some tests are given for the common organic acids, alkaloids and carbohydrates.

The above brief outline of the work under review may serve to indicate the somewhat unique character of its subject-matter, which differentiates it from most chemical textbooks. Although not free from errors, it will doubtless prove a useful source of information respecting the manifold operations of organic synthesis and methods employed in chemical research, but for those desiring a broader knowledge it must necessarily be supplemented by references to original literature or to works which deal more comprehensively with particular subjects. This consideration would apply especially to the large class of compounds which are primarily of pharmaceutical interest, such as the alkaloids, glucosides and other organic constituents of plants, for which any detailed account of the methods of manufacture, isolation and identification would far exceed the limits designed by the authors for the present work. F. B. POWER.

*Year Book of Pharmacy*, comprising official information respecting the Pharmaceutical Society of Great Britain. Scientific abstracts relating to Pharmacy, Materia Medica and Chemistry, covering the period July 1922 to October 1923. With the transactions of the British Pharmaceutical Conference at its Sixtieth Annual Meeting held in London, July 23 to 27, 1923. Editor of the abstracts, J. O. Braithwaite, Ph.C. The Pharmaceutical Press, 17 Bloomsbury Square, W. C. London.

The volume comprises xxxvii + 807 pages,