

The adoption of the chemical basis of classification inevitably requires that variations of the composition of a mineral from the normal must be taken into account, when they affect its position in the classification. When such a classification, on the chemical basis, is *perfectly* carried out, then we will possess a theoretically perfect system of determinative mineralogy.

To sum up, then, this book is, in our judgment, the best treatise on determinative mineralogy that is yet published; but the tables have some defects of method and many deficiencies of detail, the correction of which would greatly increase their reliability.

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A TEXT-BOOK OF VOLUMETRIC ANALYSIS WITH SPECIAL REFERENCE TO THE VOLUMETRIC PROCESSES OF THE PHARMACOPOEIA OF THE UNITED STATES. BY HENRY W. SCHIMPF, PH.G., M.D., Professor of Inorganic Chemistry in the Brooklyn College of Pharmacy. Third edition, revised and enlarged. New York: John Wiley & Sons. 1898. xxx + 522 pp. Price, \$2.50.

In its present form this work consists of four parts: Part I gives a description of the apparatus, indicators, methods of work and of calculation used in volumetric analysis, and also a concise statement of the methods to be used for the inorganic substances of the U. S. Pharmacopoeia. Part II is new and gives methods for the analysis of various medicinal acids and metallic salts. Part III is devoted to sanitary analysis and includes especially methods for the analysis of water, milk, butter, starch in cereals, diastasic value of malt, glycerin, alkaloids, vegetable drugs, and surgical dressings. Part IV gives gasometric methods for the analysis of carbonates, nitrous ether, nitrates, urea, and hydrogen dioxide.

The descriptions and directions are mostly clear and satisfactory, and the methods given are usually well suited for the purposes for which they are designed. Two or three matters of detail may be criticized: magnesium chloride is now generally used for magnesia mixture instead of magnesium sulphate, as recommended (p. 241). The standards for nitrites in potable waters (p. 313) do not agree with the opinion of the best authorities and should be revised. A table of atomic weights based on $O = 15.96$ is decidedly out of date, but that may be the fault of the pharmacopoeia rather than of the author.

Perhaps the most serious omission in the book is the failure to

give any rational discussion of the theory of indicators in acidimetry. Since Ostwald's discussion of the subject has become so easily accessible, any book on volumetric analysis which does not, at least, give an outline of the principles involved, must be considered as incomplete.

W. A. NOYES.

COMMERCIAL ORGANIC ANALYSIS. VOL. I. BY ALFRED H. ALLEN, F.I.C., F.C.S. With revisions and addenda by the author and HENRY LEFFMANN, M.A., M.D. Third edition. Philadelphia: P. Blakiston's Son & Co. 8 vo. 557 pp. Price \$4.50.

This new and thoroughly revised edition of Vol. I of Mr. Allen's valuable work will be heartily welcomed by chemists everywhere. The second edition was published in 1885, and the present volume had become a necessity in order that it might rank in completeness with the later volumes of the work.

The subject-matter has been brought well up to date by material furnished by both Mr. Allen and Dr. Leffmann. Numerous typographical errors in the second edition have been corrected and the index has been much improved by very considerable enlargement. The arrangement of the subject-matter remains essentially the same as in the second edition which was eminently satisfactory. The methods of the American Association of Official Agricultural Chemists have been included, very properly, in the text.

The following subjects have had much valuable matter added to them; *viz.*, Specific Gravity, Kjeldahl Process, Proteids of Wheat Flour, Vinegar, Brewing Sugars, Malt Substitutes, Hop Substitutes, Secondary Constituents in Spirits, Formaldehyde, Methyl Alcohol, Acetone, Fusel Oil, Argol, Starch, Glucose, Invert Sugar, Lactose, and Wine. The addenda treat of "Detection of Gallisin in Beer," "Invert Sugar," "Outline Process for the Detection of Bitter Principles in Beer," "Method for Estimating Galactan," and the "Determination of Pentosans by Means of Phloroglucol." WM. L. DUDLEY.

LEHRBUCH DER ANORGANISCHEN CHEMIE. VON PROF. DR. H. ERDMANN in Halle. Mit 276 abbildungen und vier farbigen Tafeln. Braunschweig: Friedrich Viewig und Sohn. 1898. xxvi + 756 pp. Price, M. 18.

The author states in his preface that he has taken as his model in the making up of this volume the well-known "Lehrbuch der Chemie" of Gorup-Besanez, and that he would have