

are far from satisfactory. For instance, on page 99, Kjeldahl's method is referred to as under "Nitrogen Fertilizers," page 78, whereas it is really under the head of "Nitrogen," page 74. On page 154 the chemical analysis of starch is referred to as being in Chapter VI, whereas it is really in Chapter VII, page 99.

Some proper names are misspelled, as Candlon for Candlot, page 39, and Brown for Drown, page 51.

ANDREW A. BLAIR.

COMMERCIAL ORGANIC ANALYSIS. BY ALFRED H. ALLEN, F.I.C., F.C.S. Second edition. Vol. IV. Philadelphia: P. Blakiston's Son & Co. 1898. 8vo. 584 pp. Price, \$4.50.

This work needs no introduction. The three earlier volumes—or rather five, for the third volume is really three in one—have gained a most enviable reputation, and have rendered more assistance than any other publication to those who have to do with proximate organic analysis. We have awaited this final volume of the work, therefore, with interest, and welcome its appearance most heartily.

The work is thoroughly up to date, including the most recent contributions to the literature of the field it covers. The author has evidently intended to give references to articles mentioned, and has usually done so, but unfortunately the reader is often referred to abstracts instead of original articles.

As stated in the preface, "Much of the matter of Volume IV is scarcely such as might be expected to be contained in a work purporting to treat of commercial analysis." This could not well be otherwise, for some of the subjects treated are among the most difficult to study and the least understood of all commercial products.

The subject-matter of the volume is arranged under the headings, "Proteids and Albuminous Principles," and "Proteoids of Albuminoids." The first 460 pages are of equal interest to the physiological chemist and the food chemist. Here are treated the proteids of eggs, blood, urine, and milk, as well as vegetable proteids, and methods are given for the examination of dairy products and of meat and meat products. The proteids of digestion, and methods for the examination of blood are also discussed at length.

The sixty-eight pages devoted to meat and meat products are especially worthy of note, though the apparatus described for the estimation of nitrogen (p. 32) would scarcely meet with the approval of our agricultural chemists.

The remainder of the volume is devoted to the proteoids. The author has set for himself the very difficult task of classifying the bodies that come under this heading, and this treatment of them is probably as systematic as is possible with the knowledge we now possess of their properties.

The nomenclature of this subject is most bewildering, at present, so much so that it is necessary for a writer, in order to be understood, to give his interpretation of even the terms most commonly employed. Some writers, and even national associations, in trying to assist us, only add to our perplexity. We are glad to see, therefore, that the author of this work has striven, first of all, to promote uniformity, for instance, the term "albuminoid" is used with the same significance as proteoid, but it is suggested that, to prevent confusion, it be avoided whenever possible.

On the whole the volume compares favorably with the earlier volumes of the work, and cannot but do much to remove the difficulties that are encountered in the examination of nitrogenous compounds.

W. D. BIGELOW.

MANUAL OF DETERMINATIVE MINERALOGY, WITH AN INTRODUCTION ON BLOWPIPE ANALYSIS. By GEORGE J. BRUSH. Revised by SAMUEL L. PENFIELD. Fifteenth edition. pp. 302. New York: John Wiley & Sons. 1898. Price, \$4.00.

This book is so well known through its fourteen previous editions that it is surely superfluous for the reviewer to do anything more than to note the additions and changes which have been made, and to call attention to what appear to be defects or deficiencies.

The additions consist principally of a well-written and useful chapter on the physical properties of minerals, the greater part of which deals with crystallography, and, further, in the introduction into the tables of such well-defined mineral species as have been discovered in the twenty years since their last revision.

The most evident change has been in the reconstruction of the tables, with the dominant idea of making the chemical tests the