

learner, with great advantage. But it may be doubted whether initiative exercises of this order will serve to develop the independent power of the student as well as a series of laboratory exercises planned expressly for the student, distinct from the order of the lecture course though on the same subject.

It remains to mention what is best about this book; namely, its personality, clearly recognized in every page by those who know the author and by those who have read his contributions. Personal qualities can be known more easily than named, but it can be said that the authorship of this little book is characterized by simplicity in description, directness in statement, breadth of view in science, caution in adoption of theory, care against misinterpretation, and experience with the applications of chemistry at the present time.

A. B. PRESCOTT.

INTRODUCTION TO CHEMICAL, TECHNICAL ANALYSIS. BY PROF. F. ULZER AND DR. A. FRAENKEL, Directors of the Testing Laboratory of the Royal Technological Museum in Vienna. Authorized translation, with an appendix by the translator, HERMAN FLECK, Nat. Sc.D., Instructor in Chemistry, University of Pennsylvania. Philadelphia: P. Blakiston's Son & Co. vii + 188 pp. Price, \$1.25.

This book is apparently an effort to teach the student "something of everything" while the "everything of something" is left to the special treatise. Unfortunately the methods described under the different branches of technical work are generally very sketchy and few of them are capable of execution by the student without assistance.

The subjects treated include Products of Technical Chemistry, Cement and Clay, Metallurgical Industry, Alloys, Fertilizers, Sugar Industry, Fermentation Industries, Fats, Waxes and Mineral Oils, Mordants and Tanning Materials, Textile and Dyeing Industries, Products of the Coal-tar Industry, and in an appendix, White Lead, Manganese Dioxide, Bleaching Lime, etc., Asphalt and Food Stuffs.

The subjects most satisfactorily treated are the "Mordants and Tanning Materials" and the "Textile and Dyeing Industries." The one most unsatisfactorily treated is the "Metallurgical Industry."

The appearance and printing of the book is good and the index is well made, but the cross references in the body of the book

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.