

points about the book. A careful perusal of these 14 pages will cause those inclined to be overzealous to think seriously before embarking upon the beet-sugar enterprise.

A very complete bibliography of the various works and journals consulted is given, and the references made to these in the text are indicated at the bottom of the page. We are glad to see that an index has been provided, the lack of this in the first volume of uncompleted works being often a source of annoyance.

The publishers have performed their part of the work most satisfactorily, the typography and illustrations being excellent. The succeeding volume of Mr. Ware's book will be awaited by the sugar world with great interest. C. A. BROWNE, JR.

TECHNICAL METHODS OF ORE ANALYSIS. By ALBERT H. LOW. New York: John Wiley & Sons. 1905. x+273 pp. Price, \$3.00.

This is a book of 273 pages, and according to the preface is designed as an aid "to the technical chemist," but it is hoped by the author that it "may also prove useful to the student desiring to become acquainted with technical methods." Both of these intentions seem to have been quite satisfactorily carried out.

The first chapter of 7 pages describes some special forms of well-known apparatus which the author has found particularly desirable. Following this is a chapter on electrolysis, giving briefly the apparatus necessary to carry on electrolytic methods and the general precautions and procedure required. Chapter 3 is a short one on the use and advantage of logarithms in chemical calculations. Following this is the main part of the book, in which are described methods for the determination and separation of the various metals and elements ordinarily required in metallurgical work, beginning with aluminum and including antimony, arsenic, barium, bismuth, cadmium, calcium, chlorine, chromium, copper, iron, lead, magnesium, manganese, mercury, molybdenum, nickel and cobalt, phosphorus, potassium and sodium, silica, sulphur, tin, titanium, tungsten, uranium and vanadium. These are treated in separate chapters.

Chapter 30 suggests methods for separating the elements when more complete analyses from one sample are desired.

Chapter 31 treats of the analysis of boiler waters, and chapter 32 the analysis of coal and coke. There is also a short chapter on testing crude petroleum.

The arrangement of the matter is excellent, being divided into paragraphs and with many cross references. The directions are in full detail, and the author, by the frequent use of the personal pronoun, shows that he is personally acquainted with the processes described.

The book speaks for itself but the long experience and well-known reputation of the author is sufficient guarantee as to the quality of the matter. It is a book that can be recommended to chemists engaged in the analysis of minerals or metals, and particularly to the student who desires to practice the methods generally adopted in the works laboratories. WM. HOSKINS.

DIE MIKROSKOPIE DER TECHNISCH VERWENDETEN FASERSTOFFE. By DR. FRANZ RITTER V. HÖHNEL, Professor in the Technical High School of Vienna. Second Edition. Vienna and Leipzig: A. Hartleben. 1905. 248 pp. Price, 6 Marks.

This work of Professor Höhnel is a revised and somewhat enlarged issue of his previous volume on the same subject. The microscopy of fibrous materials of technical application is a wide field, and this book is probably the only one of its kind which attempts to treat of the entire subject. The excellencies of Professor Höhnel's earlier edition made it a recognized authority on the subject, and these good features are preserved in the present volume, to which there is also added an additional amount of information resulting from the researches of both the author and other investigators subsequent to the publication of the first edition.

Höhnel's micro-analytical classification of the vegetable fibers is especially valuable, and it is only to be regretted that he has not extended the same method into the study of the animal hair fibers. The consideration of the vegetable fibers occupies the major portion of the book, and the description of the various fibers employed in textiles and in paper-making is very thorough and complete.

The principal features which have been added to this edition are considerations of mercerized cotton and the various forms of artificial silk. A number of new drawings, chiefly the work of cotemporary observers, has also been included. Höhnel's own drawings illustrative of the microscopic appearance of the fibers have become more or less classic. Perhaps these drawings exhibit characteristics which the author desires to emphasize