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

more clearly than would actual photomicrographs of the fibers themselves; the only criticism that can be offered is that such drawings are apt to be more or less idealized, or rather conventionalized, with the result that unless a person is thoroughly familiar with just what features are to be observed under the microscope, he would experience difficulty in many cases in identifying some of the fibers drawn by Höhnel. Another criticism to be offered is that though Höhnel's book is eminently scientific and must always occupy a high place in the literature of the subject, the technical or practical side of the matter is rather badly neglected, which is rather disappointing in a book purporting to deal with the "technically applied" fibers. To the scientist or advanced student interested in the subject the present volume is what may be termed a valued "classic," but to the purely technical student and the one to whom the volume should make the greatest appeal and be of the greatest utility, Höhnel's book, we fear will be too highly theoretical for practical use.

J. MERRITT MATTHEWS.

A SYSTEMATIC COURSE OF PRACTICAL ORGANIC CHEMISTRY. By LIONEL GUY RADCLIFFE and FRANK STURDY SINNATT. London: Longmans, Green & Co. 1905. xi+264 pp. Price, $1.40.

The systematic course (96 pages) begins with methods for the detection of the various elements present in organic compounds; the determination of melting-point, boiling-point, and specific gravity; the purification of organic substances (crystallization and sublimation); and the determination of molecular and equivalent weights. This introductory portion (22 pages) is followed by detailed descriptions of the preparation of various typical organic compounds, accompanied by numerous experiments illustrating their characteristic reactions. These preparations and experiments are so arranged as to follow along with the lectures on the theoretical side of the subject, and can all be completed by a student "working five hours per week" (presumably during one academic year).

Following the systematic course, comes a special part for advanced students (140 pages), 50 pages of which are devoted to "Qualitative Organic Analysis Required for the Board of Education Examination, Stage II." This portion is inserted for the benefit of students preparing for these particular examinations,