

tioned in the book. Even the special indexes, at the close of each section, are not so complete as they should be.

In spite of these faults, the book is a very valuable one, and it should be in every laboratory where work in organic chemistry is done.

W. A. NOYES.

QUANTITATIVE ANALYSIS, ADAPTED FOR USE IN THE LABORATORIES OF COLLEGES AND SCHOOLS. BY FRANK CLOWES, D.Sc., AND J. BERTRAND BERNARD COLEMAN, A.R.C.Sc. Philadelphia: P. Blakiston's Son & Co. 1903. Sixth edition. 602 pp., 125 cuts. Price, \$3.50.

This is the sixth edition of a work which, in some one or more of its previous editions, is to be found in most chemical libraries. The main changes are a revision of the section on organic analysis and the addition of methods for the determination of aluminum and nickel in steel, the analysis of aluminum alloys and a table of four-place logarithms. The Gooch crucible is described for the first time, but only in the appendix, and its use is nowhere recommended in the text. The work is still distinctively English and does not always accord with American ideas, or the best and latest practice. This is especially noteworthy in the sections on superphosphates, milk, nitrogen and silicates. The methods given are clearly described and the cross-references are so full and complete that even the routine analyst could scarcely fall into errors of procedure. Little attempt is made, however, to view quantitative analysis from the scientific standpoint.

The book covers a much larger field of analysis than would seem possible from its size. This is due to the fact that there is almost no repetition, and is made possible by the excellent system of cross references already mentioned. The opening descriptive chapters on chemical manipulation are unusually clear and concise. These are followed by numerous, simple gravimetric and volumetric determinations, to be themselves succeeded by a long list of general quantitative analyses covering a wide field.

The book will be found useful in all laboratories and will be serviceable to students under proper guidance. It is well printed and has a good index.

C. L. PARSONS.

THE SUGAR-CANE IN EGYPT. BY WALTER TIEMANN, Member of the Society of German Sugar Technicians and of the Association des Chimistes de Sucreries et Distilleries, Paris. x + 74 pp. Price, 5/- net.

This work, by the director of the experimental station in Upper Egypt, treats of the sugar-cane industry only from the agricul-

tural standpoint and in such a manner as to excite nothing but admiration for the scientific exactness with which the experiments in intensive culture were prosecuted. It is shown that modern methods must supplant the Arabs' indifference to the basic rules of rational cultivation.

The author discusses depletion of soil by a defective tenant system, best native cane varieties, details of cane selection, planting, cultivation and harvest, proper conditions of the seasons and prevailing meteorological conditions. The five years of experimental work were controlled by digestion analyses of the canes, systematically tabulated. Alluvial, coal and limestone deposits are described and their analyses given. We find excellent, practical information regarding native manures, such as stable dung, "ruins manures," zebach balladi, dove guano, bat guano and their accumulation, with analyses. The author states a need for imported artificial fertilizers and green manures, and adds practical formulae of tried fertilizer combinations, with cost and returns.

The instructions for carrying out the system for a manurial experiment, as adopted by Dr. Weitz, secretary to the Delegation of the United Association of Saltpeter Manufacturers in Berlin, embody some most practical suggestions, if accurate deductions are to be made.

Chapters VII and VIII, 27 pages, present the manurial experiments in detail, comprising acreage, character of cane produced, fertilizer applied, crop yield and cane analyses; *i. e.*, sp. gr., Beaumé, Brix, juice per cent., non-sugar, quotient, sucrose, glucose and weight.

The material is well arranged, amply illustrated and fully supplemented by plotted tables. The style is very lucid and the presentation is shorn of unnecessary detail. D. L. DAVOLL, JR.