

NOTE.

A Method for Cleansing Burettes.—Globules of liquids may adhere to the inner walls of burettes, when they are emptied. The tendency can be removed by allowing a weak solution of chromic acid to stand in the burette for a few hours.

The solution may be made by adding ten grams of potassium bichromate to fifty cc. water and five cc. concentrated sulphuric acid. Pour it in the burette and allow it to remain over night. The solution does not injure the rubber tube of a Mohr burette. Wash the burette well with water.

WILLIAM GLENN.

NEW BOOKS.

CHEMISCHE TECHNOLOGIE AN DER UNIVERSITÄTEN UND TECHNISCHE HOCHSCHULEN DEUTSCHLANDS. By DR. FERDINAND FISCHER, University of Göttingen. Braunschweig: Friedrich Vieweg und Sohn. pp. 54. Price, M. 1.25.

In 1897 Dr. Fischer published "Das Studium der technischen Chemie an der Universitäten und technischen Hochschulen Deutschlands, und das Chemiker-Examen," in which he set forth the status of the subject at that time. The present pamphlet is intended merely as a supplement to that work. It consists of abstracts of addresses, papers, and published articles by leading authorities of Germany, with comments by the author (Fischer) upon some of the articles.

Chemical technology was first included in a university course at Göttingen in 1766 and within a few decades nearly all the universities included it as a major course. For many years at Giessen, Liebig lectured on the subject; an interesting program of the chemical course there, for the years 1809 to 1852 inclusive, is given. With the establishment of the Technische Hochschule, technical chemistry gradually disappeared as a major course in the universities, the last full professor in this subject being Prof. Wagner of Würzburg, who died in 1880. At the present time, in nearly one-half of the German universities, the subject is not taught, but a movement is now on foot to reestablish it and one of the objects of this book is to further the movement.

The state examination of technical chemists is also discussed and apparently much difference of opinion exists among the leading chemists as to its desirability. But nothing seems to have come of the agitation in its favor, and further action on the question is indefinitely postponed. The book closes with a

statement of the purposes of the "Association of Laboratory Directors, etc.," and the regulations adopted to govern examinations for diploma and doctor's degree. F. H. THORP.

LABORATORY WORK IN PHYSIOLOGICAL CHEMISTRY. BY FREDERICK G. NOVY, Sc.D., M.D., Junior Professor of Hygiene and Physiological Chemistry, University of Michigan. Second Edition, Revised and Enlarged. Ann Arbor: George Wahr. 1898. pp. 326. Price, \$2.00.

The second edition of this work is wholly rewritten, and is practically a new book. It contains directions for laboratory work covering the various food-stuffs and the fluids and secretions of the body, together with brief explanatory descriptions of these substances, and is designed to guide the student in the experimental study of chemistry in its broad relations to physiology, hygiene, and disease. In the latter part of the work, about sixty pages are devoted to quantitative analysis. The experiments and subject-matter are well selected and concisely described without omitting important details. The course may be covered by a class devoting a half-day, daily, for three months to the work. The book will be found useful both in undergraduate college courses and in the medical school where a well-equipped laboratory is at the command of students and teacher.

A noticeable defect in the application to clinical use of the methods taught is the omission of definite information regarding physiological variations. Thus, on page 295, we read, "There is an excess of phosphates in the urine in inflammatory diseases of the nervous system and in rickets and osteomalacia. There is deficiency in indigestion and in structural diseases of the kidney;" and again, "A quantitative analysis will show the presence of an excess or deficiency of phosphates." In describing phosphoric acid in urine, the text states "On an average 2.5 g of P_2O_5 are excreted per day." What variation, then, from this amount is to be considered an excess or deficiency? The author does not state. If the determination is to serve any practical purpose, evidently some more definite method of interpretation of the result obtained must be available. This is likewise true of the amounts of the constituents of the gastric juice, breast milk, etc., as well as of urine. Information along these lines is looked for and best taught with the technical methods to be employed.

Prof. Novy's work marks a distinct advance in a field, the