

activity. Fortunately, or unfortunately, the explanation is so befogged with statements about electro-negativeness and electro-positiveness that no application, correct or incorrect, to chemical behavior is likely to be made.

The laboratory manual covers a great deal of ground. A few questions are appended to each experiment. Some quantitative experiments are given, but they are at the end of the book.

The typography, illustrations, and binding of both books are excellent.

ALEXANDER SMITH.

DISINFECTION AND DISINFECTANTS. A PRACTICAL GUIDE FOR SANITARIANS, HEALTH AND QUARANTINE OFFICERS. BY M. J. ROSENAU, M.D. Philadelphia: P. Blakiston's Son and Co. 353 pp. Price, \$2.00 net.

The author of this book is connected with the United States Marine Hospital Service, as Director of the Hygienic Laboratory, and has had abundant opportunity to observe practically what he has written about. The work is divided into six chapters of which the first three treat of the various disinfecting agents in general use. The opinions of the author in discussing the applicability and relative merits of the substances considered seem eminently sound and practical. The fourth chapter deals with means for destroying insects which carry diseases. The fifth chapter gives clear directions for disinfection of houses, ships, railway cars, furniture, clothing, books, etc., and is very satisfactory. The sixth and last chapter deals with the question of disinfection after special diseases, and for each one the most efficient treatment is suggested. The book is illustrated and is well printed. On the whole it may be recommended to those in need of information in this direction.

J. H. LONG.

DIE ZERSETZUNG STICKSTOFFFREIER ORGANISCHER SUBSTANZEN DURCH BAKTERIEN. BY DR. O. EMMERLING. Braunschweig: Friedrich Vieweg und Sohn. 141 pp. and 7 plates. Price, 4 marks.

This little book describes the important group of decompositions usually classed as fermentations in which the active agents are not true ferments, in the modern sense of the word, but bacteria. The best known examples of such reactions are the acetic, lactic, butyric and gummy fermentations, in which carbohydrates or their derivatives are the materials on which the bacteria work. The author discusses these changes and several

others and points out the conditions under which various by-products are formed. Attention is called to the complexity of several reactions usually described in the text-books as comparatively simple. It is interesting to note in this connection the large number of cases in which ethyl alcohol is produced.

The book is not intended to be more than a suggestive compilation of results scattered through the recent literature, but as pretty full references are given it will be found useful to chemists and bacteriologists who desire to gain an insight into this important field of investigation, to which the author himself has made several valuable contributions.

J. H. LONG.

G. BUNGE'S TEXT-BOOK OF PHYSIOLOGICAL AND PATHOLOGICAL CHEMISTRY. Translated by F. A. STARLING and edited by E. H. STARLING. Philadelphia: P. Blakiston's Son and Co. 1902.

Bunge's text-book still remains the most popular book on the subject. The fourth German edition, from which the second English is translated, is not much enlarged over the previous editions of the work. However, Bunge's aim was to give the general principles of the chemical side of animal physiology and pathology, and in this he succeeded most brilliantly. There are only a few questions that the author discusses in greater detail, but those are chapters of such general interest, that every biologist will read them with great pleasure, whether he does or does not accept the conclusions of the writer. Such are the chapters on vitalism and mechanism, also the chapter on alcohol. The importance for the animal organism of the mineral constituents of food is discussed by Bunge more than it has been by any other writer. The book as a whole presents in a very interesting and comprehensive form the most obscure problems of physiology, and can be recommended to those who desire to gain a general knowledge on the subject.

P. A. LEVENE.

ELECTRO-CHEMICAL ANALYSIS. BY EDGAR F. SMITH. Philadelphia: P. Blakiston's Son and Company. 1902. 199 pp.

The earlier editions of Professor Smith's work on electro-chemical analysis are so widely and favorably known as to render unnecessary any extended notice of this third edition, further than to call attention to the changes and additions that have been made by the author.

The chapters on sources, reduction and measurement of cur-