

It is suggested that in view of its greater simplicity and its much greater efficiency, at least for the smaller machines, a description of the Hampson apparatus for the liquefaction of air might advantageously have taken the place of one of the two given on pp. 280-281. Referring to p. 284, it is hardly true to say "that the whole science of Physical Chemistry" is based on the assumption of electrically charged ions.

E. C. FRANKLIN.

A TEXT-BOOK OF PHYSIOLOGICAL CHEMISTRY. BY OLOF HAMMARSTEN. Authorized translation by JOHN A. MANDEL. Fourth American Edition. 8vo. viii + 703 pp. New York: John Wiley & Sons. Price, \$4.00.

This translation is from the 5th German edition which appeared in March, 1904. The latter was called for by reason of the rapid advances recorded in physiological chemistry in the last four years, advances indicated by the success attending the publication of the new journals and reviews devoted to this special field. The appearance of the "Biochemisches Centralblatt," the "Beiträge zur chemischen Physiologie und Pathologie" and the "Ergebnisse der Physiologie" show beyond question the remarkable development of chemistry in its relations to medicine. The new edition of Hammarsten's work contains many things not in the old and in the selection of material from the enormous store available shows a success consistent with the reputation of the author. Even some of the latest discussions of the attempts at protein synthesis are fully considered.

The translator has apparently done his work well, as the English is smooth and straightforward. Certain blemishes in the earlier editions have been corrected in this. Beyond question this work is the most valuable book of the kind in our language. One of its greatest merits is its fairness, but it is just this which renders its use as a text-book in American medical schools somewhat problematical. Many of the discussions in physiological chemistry are still far from settled and in a fair treatment of these the author must present all sides deserving a hearing. This Hammarsten does admirably but the seeming contradictions are often very confusing to the student, especially to the beginner, and most of our students who use the work never pass beyond the beginner stage. Under the conditions which prevail in most of our schools of medicine the Hammarsten should be employed as a work of reference and for this purpose, with its many literature citations, it is

most excellent. Perhaps some day, when our medical schools make much stronger entrance requirements, books of this class may be more satisfactorily used and appreciated. J. H. LONG.

THE URINE AND CLINICAL CHEMISTRY OF THE GASTRIC CONTENTS, THE COMMON POISONS, AND MILK. BY J. W. HOLLAND, M.D. Philadelphia : P. Blakiston's Son & Co. 172 pp. Price, \$1.00.

This book contains the usual routine exercises given to students of medicine in many of the institutions of the country. Ninety-four pages treat of the urine, 21 pages of the gastric contents, 37 pages of poisons and 20 pages of milk. The descriptions of the various reactions and tests given are in the main satisfactory, but in the discussion of quantitative processes the explanations are too brief to give the student any real understanding of principles. In explaining the Fehling and Pavy sugar titrations the author speaks (p. 60 and p. 61) of the necessity for quick work and prompt end readings "as the test solution on standing takes up copper and turns blue again." Doubtless the taking-up of oxygen is intended. To the reviewer it has appeared for years that most of our books for medical students attempt to cover too many topics in very brief space.

J. H. LONG.

APPLICATION OF SOME GENERAL REACTIONS TO INVESTIGATIONS IN ORGANIC CHEMISTRY. BY DR. LASSAR-COHN, Professor of Organic Chemistry at the University of Königsberg. Authorized translation by J. BISHOP TINGLE, PH.D. 12mo. vii+101 pp. Cloth, \$1.00. New York : John Wiley & Sons. London : Chapman & Hall, Limited. 1904.

In the introductory chapter the author speaks as follows: "The time has arrived when it is possible to formulate, for the conduct of some operations, a number of general rules derived from the enormous mass of experimental material which has accumulated, and, as a corollary, to develop considerably many methods which are in use for organic chemical investigations. It may be hoped that, in course of time, the blind, trial and failure process may be increasingly restricted, and this little book is offered as an attempt to systematize methods of work." The subject-matter is arranged in four chapters. I, Introductory; Fixation of Labile Hydrogen Atoms. II, Modification of Reactions. III, Improvement in the Conditions of Reaction; Overstrain of Reactions. IV, Influence of Neighboring Atoms and Atomic Complexes.

To a certain extent the book may be regarded as a digest of the