

On p. 253, "It has been found that a couple made of bismuth and antimony, heated at the point of union, corresponds very closely in electromotive force to a couple consisting of zinc and copper immersed in sulphuric acid." In fact, this thermo-potential cannot be over a few hundredths of that of the zinc-copper-acid combination.

The problem of electricity from carbon is given a short chapter, in which all the energy thus far derived from carbon cells is attributed to thermo-electric operations. The manufactures of ozone and nitric acid from the atmosphere are given quite extensive treatment.

Chapter XVI is devoted to the primary cell. No attempts are made to introduce the usual mathematical formulas expressing relationship between ionic concentrations, migration rates and electromotive forces. The familiar and incorrect system of calculating electromotive force corresponding to a given reaction, from heats of formation alone, is given in this chapter and is also previously used to determine the minimum electromotive force necessary to produce a current through an electrolyte.

W. R. WHITNEY.

A SYNOPSIS OF A COURSE OF LECTURES IN GENERAL CHEMISTRY PUT IN THE FORM OF QUESTIONS. By S. L. BIGELOW. Ann Arbor: George Wahr. 1905. 104 pp. Price, 50 cents.

The author's attempt to furnish a series of questions, that shall help a student assimilate the facts acquired in the lecture room and direct his study of some text-book to the best advantage, is very successful. The questions are well chosen, clearly put, and broad enough in their scope to satisfy the demands of most elementary courses. A few tables of constants, and some hints regarding problems concerning gases and solutions are placed in an appendix.

L. B. HALL.

RECENT PUBLICATIONS.

THE MODERN PACKING HOUSE: A COMPLETE TREATISE ON THE DESIGNING, CONSTRUCTION, EQUIPMENT AND OPERATION OF A MODERN ABATTOIR AND PACKING HOUSE, ACCORDING TO PRESENT AMERICAN PRACTICE, INCLUDING FORMULAS FOR THE MANUFACTURE OF LARD AND SAUSAGE, THE CURING OF MEATS, ETC., AND METHODS OF CONVERTING ALL BY-PRODUCTS INTO COMMERCIAL ARTICLES. By F. W. Wilder. Chicago: Nickerson & Collins Co. 1905. 581 pp. Cloth, \$10.00. Mor., \$12.00.