

macy and so also is the absence of any indications of the industrial value of substances. It would have been more logical either to include more such material or else to omit the small amount now included.

It is perhaps hardly necessary to mention that the book has no alphabetical index, a time-saving device which seems to be appreciated by very few French writers. H. W. HILLYER.

AN INTRODUCTION TO CHEMISTRY. BY D. S. MACNAIR. London: George Bell & Sons. 1902. xii + 187 pp.

This is an admirable example of that class of text-books to which Professor Alexander Smith refers in his "Teaching of Chemistry in the Secondary School" under the heading of "The Nature Study Method." No reference is made to the atomic theory, but formulae and equations are freely used, being treated "solely as a short-hand expression of the proportions by weight in which the elements are found by experiment to combine." All but a few of the experiments (intended to be performed by the teacher) are within the capabilities of boys of fourteen or fifteen.

A. M. PATTERSON.

CHEMISTRY BY OBSERVATION, EXPERIMENT AND INDUCTION. A LABORATORY MANUAL FOR STUDENTS. BY J. I. D. HINDS, PH.D., Professor of Chemistry in the University of Nashville. New York: John Wiley & Sons. 1902. 12mo., viii + 192 pp. Price, 75 cents.

This laboratory manual is divided into four parts: In the first part, consisting of 25 pages, there is a description of the commoner forms of laboratory appliances and some instruction in manipulation. The second part, 9 pages, contains instructions and questions on specific gravity, electrolysis, specific heat and the reduction of gas volumes to normal conditions. The third part, 8 pages, entitled "theoretical chemistry" deals with chemical and physical changes, elements and compounds, acids, bases and salts. The fourth part, 144 pages, is devoted to descriptive chemistry. The elements and compounds are prepared according to the directions given and the student's attention is called to the salient properties of the substances he has made by a number of questions. The book serves also as a laboratory note-book, as sufficient space is left in the text for the written answers to the questions. In the opinion of the reviewer the book would have been improved by the introduction of some accurate quantitative experiments illustrating some of the general laws of chemical combination. Also an