

sodium carbonate in a platinum dish, it was found to be possible to separate one gram of microscopic crystals of spinel quite free from all impurities.

NEW BOOKS.

"AN INTRODUCTION TO THE ORGANIC COMPOUNDS OF EVERY-DAY LIFE." BY JULIUS T. WILLARD, M. SC. 12mo. cloth, pp. IV; 203. Published by the author. Manhattan, Kansas. 1894. Price \$1.75.

Every chemist in this country feels that anything which will tend to place organic chemistry where it belongs in our Colleges and Universities should be encouraged. It was doubtless this feeling which prompted the author to publish this little volume. The book is indeed what it pretends to be, a simple compilation. The arrangement is similar to Remsen and Bernthsen with a few changes which detract somewhat from their systematic and logical arrangement. It is on the whole so much condensed that, well-written as it is, the student must often find difficulty in following the thread connecting the various classes of compounds. The greater part of the book is devoted to the Aliphatic Series more especially to the carbohydrates. This group is neatly compiled but more appropriate for an elementary text of Applied Chemistry. Many of the every-day compounds are barely mentioned and some have been omitted entirely.

The Aromatic Series is too condensed to be of any scientific value to the student. About fifty pages are given to the derivatives of benzene proper, to naphthalene, anthracene, the terpenes, the alkaloids, the glucosides, the proteids and others. There are a good many simple facts stated, and it would seem that the book was perhaps written with the sole object of furnishing the student with these general facts.

It is, however, no longer enough that a text-book of either organic or even inorganic chemistry, be a simple mass of facts and experiments. The subject must be logically presented, leading up to, and proving new facts, by facts already known. At the same time, there must be enough assumed to develop the reasoning powers of the student and to make him feel that he is really doing the work himself. Remsen has struck the key-

note, in this respect in his "Introduction to the Study of the Compounds of Carbon" and it seems to me that it would be exceedingly difficult to place a better elementary text in the hands of the student. In fact, we are not in need of elementary text-books in organic as in inorganic chemistry. The student of organic chemistry begins with a fair knowledge of general and theoretical chemistry and a text like Bernthsen, Krafft or Richter properly used and supplemented by lectures would be far better than a small elementary book. What the organic student is most in need of is a good laboratory book, something the nature of Levy or Fischer. It is to be sincerely hoped now since organic chemistry is gaining ground in our Universities that it may not suffer from scores of poor text-books as inorganic chemistry has done.

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G. B. FRANKFORTER.

A DETAILED COURSE OF QUALITATIVE ANALYSIS. BY ARTHUR A. NOYES pp. 80. Boston: A. D. MacLachlan, Agent, 214 Clarendon St. 1894. Price \$1.

This small book of eighty pages aims to present a complete course in inorganic qualitative analysis, so arranged as to be easily followed by the student. The author follows Fresenius, in the main, as to the methods, but has modified them in some particulars. The book is divided into two parts; *viz.*, a clear, concise description of the procedure of the analysis, followed by a series of notes of explanation upon the process.

The main feature of the book, is these explanatory notes. In these the author has sought to instruct the student in all the precautions to be taken to insure accuracy, the possible sources of error, the defects in the processes, the conditions requiring a variation of the procedure, etc.

In one case thirteen, and in others nearly as many, separate notes of this kind are given. It takes, for example, fourteen pages of the book to explain how to deal with the elements of the iron group. While these notes are an excellent feature for students who have become familiar with the usual procedure, it is to be feared that the complexity of conditions they discuss, may confuse the beginner. The description of the procedure is, in most cases, incomplete without the notes, as the appearances