

rent have been slightly changed, and descriptions of new forms of apparatus have been added. Several pages are then devoted to a most interesting and suggestive description of an electrochemical laboratory. Only a few alterations have been made in the historical section, but in the special part devoted to the determination of the metals the treatment has been greatly expanded. The references to literature that are here given under each heading have been brought down to date, and many new methods and improvements of old methods have been incorporated in the text. The chapter upon the separation of the metals has been entirely rewritten, and this part of the subject is presented in a most clear and systematic form.

Both the press work and the illustrations show decided advance over the earlier editions.

It is to be regretted that in a work otherwise so complete specific mention is not made of methods for the separation of certain of the metals through the maintenance of a constant voltage, for while it is true that up to the present time such procedure has not been so far developed as to be of material assistance to the analyst, it would yet be well to call the attention of the student to the work that has been done in this field and to the possibilities of its extension.

L. M. DENNIS.

A COURSE IN QUALITATIVE CHEMICAL ANALYSIS. BY F. P. VENABLE. Fourth edition, revised by ALVIN S. WHEELER. New York: University Publishing Company. 1902. 54 pp. Price, 60 cents.

The only novelty that the present edition of this book offers is the absence of any reference to recent theories of solution and chemical action. The authors believe, evidently, that qualitative analysis may be taught effectively in the old way.

The directions for the systematic examination of substances are given, clearly, but so concisely, that, without the constant help of an instructor, the student will fail to secure satisfactory tests and separations. This remark applies as well, however, to larger and more pretentious text-books, and the difficulty that it points out can not be easily avoided. An index would enhance the value of the book.

L. B. HALL.

RECIPES FOR THE COLOUR, PAINT, VARNISH, OIL, SOAP, AND DRY-SALTY TRADES. Compiled by an Analytical Chemist. London: Scott, Greenwood, and Co. 1902. 336 pp. Price, \$3.50 net.

Books of this class serve two purposes: they supply information