suggests itself when a new book on qualitative analysis appears—why was this published?—remains without an answer.

E. H. M.

A LABORATORY GUIDE TO QUALITATIVE ANALYSIS WITH THE BLOWPIPE. By F. W. MARTIN, PH.D. New York: John Wiley & Sons. 1903. 12mo. iv + 41 pp. Price, 60 cents net.

The author of this little book states that, in his judgment, the restricted use of blowpipe methods as a means of qualitative analysis is due mainly to the lack of a manual on the subject which is designed specifically for the analysis of compounds in general. To meet this deficiency he has arranged a scheme of analysis which is the feature of the book and which consists of well-known tests applied in the following order: 1, Closed tube; 2, open tube; 3, on plaster tablet, (*a*) *per se*, (*b*) with hydriodic acid, (*c*) with hydrobromic acid, (*d*) with stannic chloride, (*e*) with cobalt nitrate; 4, flame reaction; 5, bead reactions; 6, sodium carbonate on charcoal; 7, zinc and hydrochloric acid, after fusion with sodium carbonate and potassium nitrate; 8, fusion with acid potassium sulphate or sodium carbonate for detection of acids. Excellent cross references add greatly to the value of the scheme.

While the reviewer can not agree with the opinion of the author, as stated above, it is undoubtedly true that many substances, especially those of a simple nature, can be advantageously ana- especialy those of a simple nature, can be advantageously analyzed by the scheme presented. It is doubtful, however, if the book will recommended. Very little attention is paid to the greatest difficulty of its use, *i. e.*, interfering elements and their separation. Some of the tests given cannot be relied upon except for the purest material, and a few are insufficient for identification even when free from admixture. The blowpipe has its use, but too much has often been claimed for it, even in the hands of the expert. A few important blowpipe reactions have been omitted, such as the coatings obtainable on charcoal and the metallic buttons which are so easily produced by means of sodium from many compounds and ores, and even from the silicates of the malleable metals. The manual is without cuts of any kind and assumes the guiding hand of a teacher already familiar with the subject. For class use this has, perhaps, a distinct advantage, as cumbrous details are omitted.

Taken as a whole, the book is one of the best short manuals of blowpiping to be had. It will scarcely be adopted as a means for general qualitative analysis, but it is well worth the price asked, for use in the blowpipe laboratory or even as an adjunct to a qualitative course. It is well printed, well indexed and contains few errors. CHARLES L. PARSONS.

CORRECTION.

In the paper by W. Geo. Waring on "The Volumetric Determination of Zinc," page 29, the factors for zinc ammonium phosphate and zinc pyrophosphate should be, respectively, 36.64 and 42.91 instead of 37.28 and 42.77, as given.