termissa, unicolor-friesei and the typical *unicolor*). The bumble-bees (*Bombus*) are absent from the Ethiopian region, though they are known to occur in tropical South America.

W. M. Wheeler

Quantitative Chemical Analysis, Adapted for use in the laboratories of colleges and schools. By Frank Clowes, D.Sc. (London) and J. Bernard Coleman, A.R.C.Sc. (Dublin). Eighth edition. Philadelphia, P. Blakiston's Son & Co. 1909. Pp. 565. $3.50.

This is a new edition of a well-known and very popular book. The first edition appeared in 1891, the seventh in 1905. This was reprinted in 1907 and again in 1908, and here is a new edition. What is the reason for this popularity? We find it on comparing this with other manuals, which are as a rule either general or special, those of the general type giving few special or technical methods, and those of the special type dealing with a single branch of analysis. In the present book the authors begin with very thorough instruction in general analysis and pass on to specialties, such as the analysis of gas, water, milk, butter, tanning materials, oils and fats, assaying, iron and steel, etc.

This comprehensive task is well done in this edition in 565 closely printed pages, by omitting matters theoretical, and thus gaining space. The directions for work are so clear and comprehensive that an isolated analyst should be able to overcome any difficulties with its help. For example, 10 pages are given to a thoroughly illustrated, very detailed but empirical treatment of the subject of the balance and weighing. Treadwell in his analytical chemistry gives also 10 pages to the subject, but half this space is given to mathematics and theory.

In brief the present volume will appeal less to the university-trained chemist, who has access to a library of books on analysis, than to the great number of analysts with only college or technical school training who need a well-written comprehensive book, which simply tells them what to do and how to do it.

Among the new methods described in the preface may be mentioned additional methods for the determination of melting and boiling points, for the electrolytic estimation of metals, for the volumetric estimation of hydrogen peroxide, formaldehyde, silver, tin and antimony in alloys and various new technical processes including the use of the bomb-calorimeter in coal valuation, and a new section on oils, fats and waxes to which Professor Lewkowitch has contributed.

E. Renouf

Elementary Chemistry. By Hollis Godfrey, Head of the Department of Science, Girls' High School of Practical Arts, Boston, Mass. Longmans, Green & Co. 1909. Pp. 456.

In the preface the author states that,

> Four ideals have governed the writing of this book. The author has desired to obtain simplicity; to reach the understanding of the student; to rouse the pupil to a realization that the science of daily life is identical with the science of the school room; to include all the essential facts and theories which could be rightly assimilated in one year's work in elementary chemistry. . . . No book which is a mere encyclopedia of facts arranged without reference to their teaching value can produce a maximum of effect. . . . It has been a constant purpose to bring forward wide-reaching general truths in the form in which they would most effectively impress the student.

In this book the author has followed a different path from the usual one and has produced a work which has much to commend it for the purpose for which it is evidently intended. Instead of confining himself to a rather detailed study of a few of the simple substances and preparing the way for a more advanced course, the author has had in mind the needs of those who will have no further opportunity to study this subject and has covered in a very general way the more important points in the fields of both inorganic and organic chemistry, emphasizing especially the application of this science to daily household life. Owing to the fact that this book would probably be used by students more advanced than those who would take an elementary