

tive importance of the alkali and lime-soda feldspars. For aphanitic and glassy rocks this is determined from the norms, from which the average composition of the lime-soda feldspar can be calculated. Distinctions between potash and soda-rocks are also made.

The granular or phaneritic rocks are treated on the assumption that in most cases their mineral composition can be approximately determined. The aphanitic and glassy rocks which are chemical equivalents of the phanerites are classed with them, and their equivalence is determined through the norms. The limits of divisions in the quantitative system being vague, Iddings has assigned boundaries by quantitative factors which are the same as or similar to some of those used in the quantitative system. This involves restricting and redefining of many current terms, but where an old group name, such as andesite, is in question, Iddings has proposed new names for certain new divisions of the larger and older group.

While most of the names in current use are retained, Iddings gives precision to many of them, and supplements them by many new ones. As he has been guided by definite principles, several of which are new in their application to mineralogical systems, Iddings has practically made a new petrographic system. The reviewer believes that a large proportion of the new propositions will be welcomed by most petrographers of wide acquaintance with igneous rocks as corresponding, at least approximately, to changes in the old system which they have long regarded as necessary.

The way in which Iddings has subdivided older groups and supplied new terms may be illustrated by a few examples. Three kinds of dacite are recognized, each characterized by its average or normative plagioclase. Oligoclase dacites are called *ungaitite*; those with andesine are called *shastaite*, and those with labradorite, *bandaite*. Oligoclase andesite is distinguished from andesite proper as *kohalaite*, while andesine basalt is called *hawaiiite*, as distinct from basalts of labradorite feldspar.

A very valuable feature of the book is the 71 tables of chemical analyses of rocks (nearly

1,100 in all) arranged to show the composition of the new systematic divisions. The norm and quantitative classification of each rock are also given, and a general correlation of the mineralogical and quantitative systems is clearly expressed by the tables. Many diagrams also serve to show the relations of the two systems.

Part II. of this volume is a review of what is known concerning the occurrence and distribution of igneous rocks. It is based on personal examination of the extensive literature cited, and the magnitude of the task of preparation for this discussion will be appreciated only by those who have made some similar study of original sources. This is not a theoretical discussion of petrographical provinces, but an attempt to present the facts of our present very imperfect knowledge of the geographical distribution of igneous rocks. It is significant that Iddings, after this review, concludes that "it is too soon to attempt to define the area of any petrographical province. The data are insufficient for a complete definition or description of any one province . . ." (p. 351).

The distribution of rocks is presented by means of maps of continental areas and a systematic review of the rocks described from various districts.

The discussion begins with the rocks of North America as they occur in large provinces. Following the geographical treatment is a preliminary discussion of petrographic provinces suggested and a description of their individual characteristics, illustrated by diagrams.

The chemical composition of rocks of certain areas is shown by 65 tables containing 1,260 analyses, giving norms, etc., as in tables of the systematic part.

WHITMAN CROSS

*Allen's Commercial Organic Analysis*. Vol. VIII. Fourth edition. Edited by W. A. DAVIS and SAMUEL S. SADTLER. Philadelphia, P. Blakiston's Son & Co. 1913. Pp. x + 696. Price, \$5.00 net.

Allen's "Commercial Organic Analysis," in

its successive editions, has enjoyed a widespread vogue in the United States, especially among chemists confronted with the necessity of examining a great diversity of products regarding which they did not always possess first-hand information. Every analyst feels the need, at times, of suitable reference books and dependable descriptions of tested methods. Certain manuals like the Neubauer-Huppert "*Analyse des Harns*" and the Hoppe-Seyler-Thierfelder "*Handbuch*" have received a hearty reception year after year because of the care and accuracy with which they were evidently compiled and because of the helpful guidance which they offered in the selection of suitable procedures. The chief criticism of many laboratory handbooks lies in the careless way in which they are edited, the lack of critique in the selection of methods of analysis; in fact, they frequently bear the earmarks of routine book-making by ambitious individuals who have little first-hand experience or broad acquaintance with the literature of the subject.

Every essay in the special field of organic analysis covered by Allen's Volume VIII. must to-day compete with a number of more pretentious reference works, such as Abderhalden's "*Arbeitsmethoden*," Leach's "*Food Analysis*," etc. These are supplemented by many smaller monographs. The only justification for a new competitor therefore lies in a high degree of excellence or in some unusual adaptation to hitherto uncovered domain. The problems of biochemical analysis in relation to "commercial" products are still far from a satisfactory solution in many respects. The conventional methods are in many cases somewhat empirical rather than strictly scientific; and the results furnish at best helpful approximations. Some of the names of the collaborators on the new Volume VIII. of Allen's series at once justify the reader in expecting a useful book. Its subdivisions are provided for as follows: Enzymes, by E. Frankland Armstrong; The Proteins and Albuminoid Substances, by S. B. Schryver; Proteins of Plants, by E. Frankland Armstrong; Proteins of Milk, by L. L. Van Slyke; Milk, by Henry Leff-

mann; Milk Products, by Cecil Revis and E. Richard Bolton; Meat and Meat Products, by W. D. Richardson; Digestion Products of the Proteins, by S. B. Schryver; Hæmoglobin and Its Derivatives, by John Addyman Gardner and George Alfred Buckmaster; Albuminoids or Scleroproteins, by Jerome Alexander; Fibroids, by W. P. Dreaper.

To many it may seem like a trivial performance on the part of a reviewer to refer to minor defects—omissions or errors—in a notice of this character. Every book has inevitable mistakes, we are assured; and to point them out is often looked upon as a sort of gratuitous effort that smacks of the mediocre. Perfunctory accounts of new books are easily prepared. However, it is only by a painstaking examination that one can ordinarily form a satisfactory estimate of the value of descriptions which depend upon novelty and accuracy of detail for their superior usefulness.

The new Allen, Volume VIII., presents a combination of historical and descriptive text with analytical directions for practical work. Much of it is well prepared, taking into cognizance the latest contributions of physiological chemistry. This applies, for example, to the various chapters on enzymes, proteins and their derivatives. Other portions can not be considered as equally up-to-date. Reiterations are abundant and there is little indication of a constructive editorial supervision. Old statements, handed down through a generation of text-books, are incorporated with the conventional reverence for outlived authority. The parts on meat products furnish illustrations of what is here meant. They fail to reflect adequately the recent progress in the study of muscle extractives. So long as an attempt is made to expand the volume to include descriptive biochemistry as well as analytical procedures, it ought to be done as well as present-day knowledge permits. Yet the "ptomaine" story is brought along in its original make-up, with well-defined muscle components like betaine classed along with the unknowns of putrefying tissues. It is unfortunate that an American editor should omit reference to the comprehensive work of J. P. Street (1908) on the

composition of commercial meat extracts. This valuable investigation is not even catalogued in the historical summary (p. 397) though less pretentious earlier and later contributions are included. The heterogeneous character of some of the descriptive text is shown by the inclusion, in the chapter on meat products, of statements like the following: "Diastatic enzymes occur in the saliva, pancreatic juice, blood, lymph and liver," etc. Why figures of wasp's muscle or fibers from the human vocal muscle or sketches of smooth muscle nuclei from the dog's artery should be incorporated in the text descriptive of serological identification of meats is not clear. The expression "xanthine bases" begins to have an antiquated look, now that the word "purine" has come into common use.

Shortcomings might be pointed out in other chapters. The vegetable enzyme papain, which is a widely sold commercial product, is dismissed with three lines taken from the British Pharmacopœia. The hæmometer of v. Fleischl is pictured and described in the text, with mere footnote reference to its improved successors. Some of the parts, like that on mucin, should either have been brought up-to-date or omitted. The standard work of Gies and his collaborators, and other comparatively recent contributions and working directions are not even mentioned (*cf.* p. 628). This is in striking contrast with the modernized chapters on proteins in other parts of the book. Elastin is described under fibroids and said in one paragraph to "contain no sulphur," whereas in another the content of sulphur is summarized in tabular form (p. 631). The word "keratoid" appears to be coined as a synonym for keratin. Typographical errors, particularly in the foreign proper names, are not missing. In some cases one is at a loss to know from the context whether the form presented is a mistake or an intentional innovation; for example, protase (p. 290); glutenins (glutelins?) (p. 34); spoilage (p. 309). The chapter on proteins of milk by L. L. Van Slyke, by way of contrast, is an illustration of how a very diffuse literature can be reviewed critically by an expert and presented in a brief yet com-

prehensive fashion in its theoretical and applied aspects.

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*Some Minute Animal Parasites or Unseen Foes in the Animal World.* By H. B. FANTHAM and ANNIE PORTER. London, Methuen & Co., Ltd. 1914. Pp. xi + 319. Frontispiece and 56 text-figures. 5s. net.

This interesting and valuable addition to the general literature of protozoology will be welcomed by those students of the protozoa who are chiefly interested in the practical or pathogenic side as opposed to the theoretical and speculative. It deals only with parasitic forms responsible for some diseases of man and animals and gives a full account, in simple words, of the known life history in each case and as it appears to the writers.

Of the sixteen chapters the first and last two are more general, giving, in brief outline, the chief types of protozoa, and the more general aspects of the parasitic forms. Here the authors come dangerously near the theoretical or at least controversial grounds which they appear desirous to avoid. The second chapter is devoted to *Trypanosoma gambiense* and sleeping sickness, the third to other species of trypanosomes and to the allied genera *Crithidia* and *Herpetomonas*. The fourth chapter deals with the spirochætes in a manner "which shall be as non-controversial as possible, and which will consist of facts and not the speculations so fashionable nowadays" (p. 64). The authors adhere so consistently to this promise that the reader would never know from the text that thousands of others have worked with these organisms and that there is good ground for different points of view from those presented. He would also look in vain for a description of the spirochæte of syphilis, probably the most important member of the group. In the fifth chapter there is a very good, although somewhat dramatic account of the malarial organisms of man and birds, with excellent practical suggestions regarding the breeding of mosquitoes and means