

tion with the use of neutral copper sulphate is recommended instead of the acid solution of the double chloride of potassium and copper, which has been shown to be more exact by the American Committee on Standard Methods.

With revised tables of atomic weights, published annually by both the American and German Chemical Societies, it seems hard to find an excuse for a list which includes such values as Al, 27.5; Mg, 24.0; Si, 28.0; Cr, 52.5; Zn, 65.0. Antiquated values are also given for the specific gravity and weight of one liter of hydrogen.

While defects in the book have been pointed out at some length, it would be unfair not to refer to the large amount of valuable material to be found in its pages.

The frequent tables of analysis for commercial products give, in concise form, directions which will be very useful to the working chemist. The specifications for many substances used by railroad companies form a unique and excellent feature. And, while pyrometry, electrical units and energy equivalents do not properly belong in the domain of chemistry, many chemists will find them useful.

W. A. NOYES.

Ausgewählte Methoden der analytischen Chemie.

Von PROFESSOR DR. A. CLASSEN. Erster Band unter Mitwirkung von H. Cloeren. Braunschweig, Friedrich Vieweg und Sohn. 1900. 18mo. Pp. xx + 940. Figs. 78. Price, M. 20.

Notwithstanding the astonishing number of books bearing upon analytical chemistry which appear yearly, it is probably within bounds to say that, until recently, only those of Fresenius, Böckmann, Bolley, Post, and possibly that of Crookes, have generally been regarded as fulfilling the requirements as to scope and reliability of a satisfactory book of general reference. In the last few months, however, three works of wide range and excellent promise have appeared—namely, those of Carnot (*'Traité d'analyse des substances minerales'*), Lunge (*'Chemisch-technische Untersuchungs-methode'*) and this work of Classen. Classen's work differs, however, from those of Lunge (a continuation of that of Böckmann), Bolley, and Post,

in that he presents his subject matter in such a way as to emphasize rather the general usefulness of the methods described than to present schemes for the analysis of particular bodies, although the application of the methods to special cases is adequately treated. On the other hand, Classen's work differs from those of Fresenius and Carnot, in that he has prepared the book for the use of technical chemists and advanced students to whom the general operations of analytical chemistry, such as weighing, filtering, and the like, are known. These are, therefore, omitted, and he proceeds at once to the description of particular methods.

The present volume includes only the metals and metalloids. Methods suitable for the qualitative detection of each are described, followed by procedures for their quantitative determination by volumetric, gravimetric, colorimetric or electrolytic methods, the selection having been determined upon, he states, only after tests made by him, his assistants or pupils, or, in some instances, after he had become convinced of the accuracy of the processes through published criticism. The descriptions of the procedures for the determination of the metals are, in turn, followed by those of methods for such separations from other elements as occur in ordinary analytical practice, and, in addition to the foregoing, special schemes are given for the analysis of bodies of technical importance, such as irons and steels, aluminum and its alloys, cements, clays, glasses, zinc ores and zinc dust, chrome iron ore and chrome steel, uranium ores, platinum ores and residues, 'osmiridium,' 'platiniridium,' fertilizers, liquid ammonia, ammoniacal liquors, and a scheme for rock analysis.

The value of this book as a work of reference is also much enhanced by the introduction of matter relating to the rarer elements. The methods described for the separation of the rare earths by fractional precipitation and the analysis of monazite sand, as well as of the materials employed in the manufacture of mantles for incandescent lamps, appear to be specially complete.

The author deplores the general absence in text-books and journals of statements indicating the basis of the stoichiometrical calcula-

tions often required in connection with the analytical operations described, and has, wherever these calculations are at all complicated, indicated the method of procedure. Tables to assist in the calculation of analyses are also appended.

References to the original sources of information are uniformly and freely given. Many of these refer to articles published in 1900, indicating that the book has been brought well up to date. The book closes with an excellent subject and author index, and the typography throughout is very satisfactory.

Professor Classen presents, as a product of thirty years of analytical practice in connection with technical chemistry, a work which bears evidence of a high degree of trustworthiness and is, to the extent to which it has been finished, of an unusual degree of completeness. As would have been expected, considerable stress is placed upon electrolytic methods and their advantages, and the omission of certain methods which are known to be reliable may cause some surprise; but there can be no doubt that the work is a distinctly valuable addition to the literature of analytical chemistry, and is sure to be of great service. Its early completion is much to be desired.

H. P. TALBOT.

SCIENTIFIC JOURNALS AND ARTICLES.

IN the February-March number of the *Journal of Geology* Thomas L. Watson discusses 'The Origin of the Phenocrysts in the Porphyritic Granites of Georgia.' Detailed descriptions of the rocks of various districts are given. The criteria for distinguishing phenocrysts formed *in place* from those of intratelluric origin are stated and the conclusion is drawn that these were undoubtedly formed in place. Under the title of 'Certain Peculiar Eskers and Esker Lakes of Northeastern Indiana,' Charles R. Dryer describes some interesting results of deposition by glaciers or glacial waters which he does not attempt to fully explain. Good contour maps are given which, with the data furnished, will bear study. 'Correlation of the Kinderhook Formations of Southwest Missouri' is discussed by Stuart Weller. A recent State report makes a part of

these rocks Devonian and supposes the section to be poor in fossils. Mr. Weller has collected many fossils from the area and gives in detail the evidence upon which he definitely correlates all the beds with the Chouteau limestone of central Missouri which is Upper Kinderhook. F. W. Sardeson concludes the discussion of 'The Problem of the Monticuliporoidea' begun in the last number. O. C. Farrington contributes a second article on 'The Structure of Meteorites,' giving a detailed description of the chondritic structure. An interesting conclusion gives an account of the synthetic experiments by which it has been attempted to reproduce the structural details of meteorites. Success in this line has not been marked, and it may be necessary to fall back upon extra-terrestrial conditions. The intense cold of space is suggested.

IN *The Auk* for April P. B. Peabody describes the 'Nesting Habits of Leconte's Sparrow,' and William Brewster notes 'The Occurrence, in Massachusetts, of Certain Rare or Interesting Birds,' and Frank Coates Kirkwood tells of 'The Cerulean Warbler (*Dendroica ceruleascens*) as a Summer Resident in Baltimore County, Maryland.' Joseph Grinnell describes 'Two Races of the Varied Thrush' and J. Lewis Bonhote has some notes 'On a Collection of Birds made by Mr. T. R. Thompson at the Cay Lobos Lighthouse, Bahamas'; and Otto Widmann contributes an article on 'A Visit to Audubon's Birthplace,' Fontainebleau Plantation, near Mandeville, La.; the house is now in ruins. Reginald Heber Howe, Jr., has 'A Study of the Genus *Macrorhampus*' deciding that *M. scolopaceus* is but a subspecies of *M. griseus*. H. W. Henshaw notices 'Birds of Prey as Ocean Waifs,' and Francis J. Birtwell gives 'A Description of a Supposed New Subspecies of *Parus* from Mexico.' Hubert Lyman Clark discusses 'The Pterylosis of *Podargus*, with Notes on the Pterylography of the Caprimulgi,' concluding that the nearest relatives of this group of birds are to be sought for among the nocturnal birds of prey. There is a 'Republication of Descriptions of New Species and Subspecies of North American Birds, No. II.' by J. A. Allen, Wilfred H. Osgood describes