

## REVIEWS.

*Dana's Manual of Mineralogy, for the student of elementary mineralogy, the mining engineer, the geologist, the prospector, the collector, etc.*  
By WILLIAM E. FORD. 13th edit. entirely revised and rewritten.  
Pp. viii + 460, with 357 text-figures and 10 plates. (New York : John Wiley & Sons ; London : Chapman & Hall, 1912. Price \$2.00 = 8s. 6d. net.)

J. D. Dana's well-known 'Manual' first appeared in 1848 and was last revised in 1887, but it has often been reprinted and there has been a total issue of twenty-four thousand copies. The present edition has been entirely rewritten by another author and has been supplied with a fresh set of figures, so that it is practically a new book. The scope remains, however, much as before, and the book will no doubt continue to be widely used as a useful introduction to the study of mineralogy. The general portion, dealing with crystallography and the physical and chemical characters of minerals, occupies 113 pages, and the descriptive portion 196 pages. For each of the more common species described the information is clearly set out under the headings: composition, crystallization, structure, physical characters, varieties, tests, alteration, occurrence, name, use. This is followed by useful lists of minerals arranged according to chemical elements, modes of occurrence, and systems of crystallization; the first of these including notes on economic applications, and the second the elements of petrology. The determinative tables occupy 68 pages, and an appendix gives a summary of the mineral production of the United States for the year 1910. By the incorporation of such practical details the subject is made one of living interest.

*Petrographic Methods. The authorized English translation of Part I, Anleitung zum Gebrauch des Polarisationsmikroskops (3rd edit.), and Part II, Die Gesteinsbildenden Mineralien (2nd edit.).* By ERNST WEINSCHENK, rendered into English by ROBERT W. CLARK. Pp. xvii + 396, with 371 text-figures. (New York and London<sup>1</sup>: McGraw-Hill Book Company, 1912. Price \$3.50 = 15s. net.)

The German original of this work first appeared in 1901 in two

<sup>1</sup> London agents: Hill Publishing Company, Ltd., 6 and 8 Bouverie Street, Fleet Street, E.C.

separate parts, and the fact that each of these has passed through other editions in German, as well as in Russian, proves that they have found a demand. In the present English edition the two parts are issued together in one volume. The first part deals with the construction and use of the polarizing microscope and its accessories, and explains the phenomena observed in ordinary light and in parallel and convergent polarized light. The second part deals with the preparation of material, methods of investigation, and the description of the various rock-forming minerals. The latter are grouped as opaque, isotropic, uniaxial, and biaxial minerals. Determinative tables extending over 40 pages are bound in the volume, and not loose as in the German edition. The translation has been well done, and the printing and get-up of the book are good. It should find many readers amongst English-speaking students of petrology.

*Introduction to the Study of Minerals. A combined text-book and pocket manual.* By AUSTIN F. ROGERS. Pp. xx+522, with 591 text-figures. (New York and London: McGraw-Hill Book Company, 1912. Price \$3.50=15s. net.)

This book gives a large amount of condensed information extending over a wide range of general mineralogy, and the description of 200 common minerals occupies rather less than half of the volume. There are several novel modes of treatment, especially in the crystallography. The book is well and clearly printed, and with the help of heavy type the facts stand out prominently. It is intended as a text-book for a one-year course in mineralogy, whilst being in a condensed form (and bound in limp leather as a pocket-book) it will be useful for reference in the laboratory and in the field. The high price and the American spellings (which seem to lack a uniformity in treatment) will no doubt tell against the use of the book in this country. Few errors have been noticed, except in the glossary, which requires some revision.

*The Examination of Prospects. A Mining Geology.* By C. GODFREY GUNTHER. Pp. ix+222, with 79 text-figures. (New York and London: McGraw-Hill Book Company, 1912. Price \$2.00=8s. 6d. net.)

An account is given of the various forms of ore-deposits and of their occurrence, mainly from the point of view of the mining engineer whose business it is to report on mining properties. Detailed instructions are given as to the methods of sampling the ores in sight and of examining

mines that have been already worked. The examples given and the references quoted are all American. The book is well illustrated by diagrams and sections borrowed from the works of well-known writers on economic geology, and it is issued in a convenient form for carrying in the pocket.

*Die Schmuck- und Edlsteine.* By Dr. A. EPPLER. Pp. x+464, with 223 text-figures and 4 coloured plates. (Stuttgart: Felix Kraus, 1912. Price 10.50 Marks, bound in cloth 12 Marks.) Forming Vol. II of 'Gewerbliche Materialkunde', edited by Dr. Paul Kraus.

This is essentially a practical book, and is intended for the use of craftsmen. Most books on precious stones have been written by either a pure mineralogist or by a worker in the jewellery trades; but here the author has combined in a particularly happy manner the fundamental ideas of scientific mineralogy with the practical aspect of the question as actually met with in the trade. One half of the volume is devoted to a description of 123 varieties of stones employed for ornamental purposes, these being arranged according to their degree of hardness. This descriptive portion deals more especially with the characters of the materials as concerns the worker, and little is said of modes of occurrence and winning. There is a useful chapter on methods of determination, and determinative tables are also given. Indications of the market values of rough and cut stones are freely quoted. The book is well illustrated, and although some of the figures are rather of the nature of rough sketches, still they are very effective. The four coloured plates representing 169 worked stones, by the three-colour process, are quite attractive. The information given in the text is reliable, and there are only few misprints.

*Notes on the Mineralogy of Renfrewshire.* By ROBT. S. HOUSTON. Pp. 88. (Paisley: Alex. Gardner, 1912. Price 2s. 6d. net.) Forming Vol. I of the Transactions of the Paisley Naturalists' Society.

This volume on topographical mineralogy is mainly a digest of the published literature relating to the seventy-six species of minerals that have been recorded from Renfrewshire. There are some new records made by the members of the Paisley Naturalists' Society, and several new analyses are given. Instead of giving scrappy reprints from the literature a more useful purpose could have been served by elaborating details of local interest. For instance, the information given respecting the typically Renfrewshire mineral greenockite is confined to a brief (and

inaccurate) extract from the original note of 1840. Surely the Paisley Naturalists are in a position to tell us something of interest about the occurrence of this mineral, exactly when and where it was found, and whether specimens may be now collected. The book is full of a tiresome repetition of such signs as 'C. of W. S. F.', 'N. S. A. of S. R.', &c.; and here, as in other points, the volume might have been much improved by editing. Dana's numbers for species (as used in the sixth edition of the 'System') are quoted as if they were regarded as constants.

*Traité de Technique Minéralogique et Pétrographique.* 2<sup>me</sup> partie, tom. I, *Les méthodes chimiques qualitatives.* By LOUIS DUPARC and ALFRED MONNIER. Pp. xi+372, with 117 text-figures and 1 coloured plate. (Leipzig: Veit & Co., 1913 [i. e. 1912]. Price 15 Marks.)

The first part of this work by Professor Duparc and his assistant, the late Dr. Francis Pearce, was devoted to optical methods; it appeared so long ago as 1907 and has been much appreciated. The present part deals with the qualitative analysis of minerals and rocks, a branch of the subject on which Professor Duparc is well qualified to write with authority, for not only is he professor of mineralogy and petrology but also director of the laboratories of analytical chemistry in the university of Geneva. A second volume on quantitative analysis is promised.

In the present volume there are separate chapters on microchemical reactions, blowpipe tests, spectroscopic analysis (with the usual coloured plate of flame spectra), and the wet analysis of inorganic substances. All this is on much the same lines as in the ordinary textbooks on analytical chemistry. In addition, we have a chapter on the separation and purification of minerals for analysis, and a short chapter on the detection of radioactivity. Finally, there are tables for the determination of minerals (77 pp.), which are based on the well-known tables of Kobell.

*The Mineral Kingdom.* By Dr. R. BRAUNS. Translated, with additions, by L. J. SPENCER. 4to, parts 17 to 25, pp. 297-432, with 57 text-figures and 41 plates. (Esslingen a. N.: J. F. Schreiber; London: Williams & Norgate, 1912. Price 2s. each part; complete in half-leather £2 16s.)

The last nine parts of this book fully maintain the standard attained by the preceding sixteen, which were reviewed in the last number of this Magazine.

Sixty pages are devoted to the more important rock-forming minerals and allied silicates. Under the several species such details of the

optical characters are given as will assist in their recognition in thin sections of rocks. The three plates of photomicrographs illustrating this part are most beautiful reproductions. A very-well-written chapter is one dealing with nephrite and jadeite, and their occurrence.

Under the 'mineral salts' is found an excellent description of the minerals of the German salt-deposits. Special prominence is given to the methods of mining these minerals and to their technical applications, which is the more welcome by reason of the frequent absence from mineralogical works of details of this kind. Amber is similarly treated, all the trade varieties being defined. The book closes with an appendix on 'The formation of a collection of minerals'; this is full of hints which all collectors will find useful.

An exhaustive index, carefully compiled, converts the whole work into a handy book of reference which, for general information, is probably unequalled among mineralogical works.

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