

BOOK REVIEWS

PETROGRAPHIC METHODS AND CALCULATIONS. ARTHUR HOLMES. *New York*: D. Van Nostrand Co.; *London*: Thos. Murby & Co. 515 pages. 1921.

As we already have a comprehensive treatise with the title "Petrographic Methods," by Professor Albert Johannsen, the announcement of another book with the same leading title naturally led to some doubt as to the desirability of another volume covering the same subject. But a glance at a copy made it evident that the title is the only thing the two have in common, and that a real need is filled by the new book. The title is in neither case exactly descriptive of the contents; Johannsen's book is largely devoted to optical crystallography, while Holmes' is chiefly petrologic methods.

The first chapter deals with petrology, its scope, aims and application, the second with the specific gravity of minerals and rocks. In this chapter methods of determining specific gravity of large and small specimens are described in detail, with many helpful practical hints as to manipulation, sources of error, etc. But the discussion is not limited to methods; there are given also interesting data on formula volume and oxide volume relations of a number of rock making minerals.

The separation of minerals is then described at length, heavy solution, magnetic, electrostatic, and chemical methods of separation being covered, again with much practical detail. The optical examination of mineral fragments forms the subject of another chapter, and in this are included, beside many helpful suggestions as to procedure, some interesting charts of birefringence relations in minerals.

The examination of sediments and sedimentary rocks, which has not been adequately treated in any previous book in English, is next taken up, and its application to geologic investigations discussed. Not only are outlines of the most modern procedures and methods of interpretation included, but actual examples of many of them are presented.

The preparation of thin sections of rocks forms the subject of another chapter, followed by one on microchemical and staining methods which collects scattered literature references in a very useful way. For instance, no less than nine staining methods applicable to aragonite, calcite and dolomite, have been gathered. The examination of thin sections is also well described, and a good-sized chapter devoted to the textures and structures of igneous and metamorphic rocks.

Then there is a chapter on chemical analyses and their interpretation, which includes much data on minerals as well as on rocks; and a final one on graphic representation of chemical analyses. Every mineralogist should certainly become familiar with and apply the methods described in this last chapter, but will find numerous points of interest and value in most of the earlier ones as well.

W.

STUDY OF MINERALS AND ROCKS. AUSTIN F. ROGERS. Second edition. XVIII+527 pages with 578 text figures and one plate, 1921. McGraw-Hill Book Co., *New York*.

A distinct departure from the usual method of presenting the subject has been made in this revision of the author's *Study of Minerals*, which first appeared in 1912. The chapter on Chemical Properties of Minerals, with only a few minor changes, now appears as the first chapter in this edition. A short discussion of colloids and a few new blowpipe tests have been added.

The idea of hemihedrism has been completely dropped. Only eleven crystal classes are discussed in detail but a summarizing table of the thirty-two is given. The stereographic and gnomonic projections and the Stöber method of crystal drawing have been omitted but a brief discussion of the work of Laue and the Braggs has been added. It does not seem logical to present crystal measurement and drawing before taking up the crystal forms nor to use only the Miller indices in a text intended for beginners.

Dispersion, rotary polarization and optical anomalies have been dropped but the fundamental optical properties are more fully described. The descriptive portion now includes only 175 instead of 200 minerals. A distinct improvement has been made in the determinative tables, especially those based upon physical properties.

A reader will hardly see the justification of the new title "Study of Minerals and Rocks," as only a portion of a 45 page chapter on the Occurrence, Association and Origin of Minerals is devoted to the study of rocks.

C. B. S.

PROCEEDINGS OF SOCIETIES

PHILADELPHIA MINERALOGICAL SOCIETY

Academy of Natural Sciences, March 9, 1922

A stated meeting of the Philadelphia Mineralogical Society was held on the above date with the president, Mr. Trudell, in the chair. Fourteen members and one visitor were present.

Upon the recommendation of the executive council Messrs. Horace R. Blank and Bernard McQue were elected active members.

The program of the evening comprised an exhibition of the three best mineral specimens of each member. Notable exhibits were made by Messrs. Vaux, Frankenfield, Knabe, Boyle, Gordon, and Trudell.

Mr. Gordon described briefly a crystallographic study of wavellite from Bolivia, Pennsylvania, Arkansas, and Bohemia, with a number of new forms. Specimens were exhibited. A Nutting mercury vapor arc with blue, green, and yellow filters for the production of monochromatic light was shown.

SAMUEL G. GORDON, *Secretary.*

NEWARK MINERALOGICAL SOCIETY

The fiftieth regular meeting was called to order by President Walther, fifteen resident members and thirteen members from the New York Mineralogical Club were present; also one visitor.

The application of Miss Martha S. Thompson was received and referred to the proper committee. The secretary then passed around for inspection a design for a club pin and was instructed to procure 50, as per sample, for the members.

A motion was then made and carried that further business be dispensed with and to proceed with the paper for the day, which was on "Molybdenum and Its Ores," by Wm. H. Broadwell. Mr. O. I. Lee then followed with the "Chemistry of Molybdenum."

Mr. Broadwell had on exhibit 200 specimens of Australian ores; Mr. Walther, Mr. Reamer and Mr. T. I. Miller also exhibited many fine specimens.

WM. H. BROADWELL, *Secretary.*