

BOOK REVIEW

LEHRBUCH DER MINERALOGIE, W. SCHMIDT AND E. BAIER. 320 pages, 214 illustrations, one colored plate. Gebrüder Bornträger, *Berlin*, 1935. Price RM 14.

This book embodies a great deal of what might be called the modern trend in mineralogy. In spite of its limited size a reader will find in this text short discussions on almost every mineralogical topic. The authors have, however, omitted a systematic treatment of crystal forms because, as they say, the subject is of such scope that it should be treated separately.

The book follows Niggli's "Lehrbuch der Mineralogie" rather closely, although the space given to the various chapters is allotted rather unevenly. The first 56 pages treat of the geometry of crystals with special emphasis on structure. A table of atomic and ionic radii is a welcome addition to this part. The next chapter is entitled *Kristallphysik* but it includes only optics with the exception of a few paragraphs on electrical and heat conductivity. These 40 pages presuppose a considerable knowledge of mathematics and physics. A beginner in optical mineralogy would find them too difficult. A beautiful colored plate of interference colors and interference figures is included. About 15 pages deal with deformation, cleavage, hardness and density of minerals. Much that one finds in the ordinary textbook has been entirely omitted in this chapter. On the other hand, one finds in the 30-page chapter on mineral chemistry very interesting discussions on the polymorphism of iron and on the principles of flotation.

The second half of the book is devoted to descriptive mineralogy. The minerals, wherever possible, are classified according to their structures, though the large divisions are necessarily chemical. The authors instead of following the usual rather dry recitation of properties of each mineral have adopted a narrative style which should be more interesting to the student. It is, however, unsuitable for a systematic course on descriptive mineralogy and almost impossible as a reference work. Occasionally overemphasis is given to certain minerals as, for example, cubanite, chalcopyrrhotite and vallerite. The student may easily receive the impression that such minerals are easily determined megascopically in copper ores. The discussion on ice occupies one page, while that of iron, aluminum and manganese oxide minerals is treated as a geological and metallurgical chapter. Since the book is intended primarily for chemists and engineers, this is not only permissible but desirable. The chemistry of the chlorides and sulphates, with special reference to Stassfurt, is treated in great detail. An alphabetical index completes the book.

On the whole the authors have succeeded to a remarkable degree in producing a text which holds the reader's interest to the last, an accomplishment not common in texts on mineralogy. The binding and paper are of fine quality. The figures and illustrations are excellent. Except for a very few typographical errors, the book appears to be practically flawless.

J. W. GRUNER

PROCEEDINGS OF SOCIETIES

PHILADELPHIA MINERALOGICAL SOCIETY

Academy of Natural Sciences of Philadelphia, January 2, 1916

President H. W. Arndt presided at a stated meeting, 29 members and 16 visitors attending. Dr. Joseph L. Gillson spoke on the "Minerals of the Pioche, Nevada, silver mining region." He described the occurrence of jarosite, plumbojarosite, hydrozincite, magnesite, willemite crystals ($\frac{1}{2}$ to 1 mm.), vanadinite, rhodonite with green epidote, cordierite, ludwigite, and fluoborite.

Charles R. Toothaker read an article on jade from the United States Commerce Reports, giving the sources, basis of valuing, methods of marketing, and a description of the world's finest piece of jade in the form of a bowl. Edgar T. Wherry reviewed the main events of the annual meetings of the Mineralogical Society of America held in New York City in December. Louis Moyd reported on a trip to Paterson, Prospect Park and Great Notch, New Jersey. J. Kenneth Fisher reported 1¼ inch zincite crystals being obtained recently at Franklin Furnace, New Jersey.

W. H. FLACK, *Secretary*

MINERALOGICAL SOCIETY OF GREAT BRITAIN AND IRELAND

MINERALOGICAL SOCIETY, *January 30*, PROF. P. G. H. BOSWELL, Vice-President, in the chair.

(1) *The Morven meteorite, an aerolite from South Canterbury, New Zealand*. By Mr. C. O. HUTTON (communicated by Professor W. N. Benson).

This stone, which weighed about 7100 grams before being broken, was found in 1925 during ploughing, 4½ miles south of Morven railway station. There is no local record of the fall, and the nature of the weathered crust suggests that it may have been in the soil for a long time. Micro-sections are described and detailed chemical analyses were made of different fractions. The stone is classed as a veined and brecciated bronzite-olivine-chondrite containing 13.18% of metallic nickel-iron. It is the fourth meteorite to be recorded from New Zealand.

(2) *Eulysites and related rock-types from Loch Duich, Ross-shire*. By Professor C. E. TILLEY.

Rocks of eulysitic facies referred to a sedimentary origin are recorded among paragneisses involved in the Lewisian near Loch Duich. They include varieties rich in manganfayalite, hedenbergite, iron-hypersthene, and garnet, and are associated with grünerite-garnet-magnetite rocks of related origin.

(3) *Gold and silver in the crystalline rocks of the Malvern Hills*. By Professor A. BRAMMAL and Mr. DAVID L. DOWIE.

Gold (traces up to 3 dwts./ton) and silver (traces up to 42 dwts./ton) are indicated by assay results for over 100 samples of mapped rock-types and their constituent minerals. The highest values are associated with a pneumatolytic phase of the "latest" granites. Assay data and spectrographs afford some check on the interpretation of certain mixed rocks, notably dioritic and appinitic types.

(4) *The rôle of Al-atoms in the two reaction series*. By Professor A. BRAMMALL.

X-ray work suggests that the break in the enstatite-diopside series and also that between the amphiboles and the basic micas are related to the continuous reaction (NaSi)-(CaAl) in the plagioclase series. The rôle of Al-atoms in the two series is reciprocal.

(5) *On the magnetite-plagioclase rocks of Magnet Heights, Bushveld, Transvaal*. By Dr. A. K. WELLS.

The paper describes the petrographic characters of the unique magnetite-plagioclase rocks which occur associated with norite and anorthosite at a relatively high level in the Bushveld complex. The bearing of the petrography upon the problem of the genesis of the rocks is discussed.