

BOOK REVIEWS

PYROSOLE. DAS KOLLOIDE PHÄNOMEN IN DER GLÜHEND FLÜSSIGEN MATERIE UND SEINE ERSTARRUNGS-ZUSTÄNDE UNTER BERÜCKSICHTIGUNG DES LATENTEN PHOTOGRAPHISCHEN BILDES. (Pyrosols. Colloidal Phenomena in Molten and Solidified Matter with Consideration of the Photographic Latent Image.) RICHARD LORENZ, Ph. D., Professor and Director of the Institute for Physical Chemistry of the University, Frankfurt A. M., and WILHELM EITEL, Dr. phil. nat., Professor and Director of the Kaiser Wilhelm Institute für Silikatforschung, Berlin-Dahlem. Vol. 4, *Colloidal Investigations*, edited by R. Zsigmondy. Akademische Verlagsgesellschaft m. b. H., Leipzig, 1926. IX+290 pp, 64 figs., 20 plates. 22 × 15 cm. Price, unbound, M. 18; bound, M. 20.

This book deals with an aspect of colloid chemistry with which the authors have been specially identified. The term "pyrosole" was coined by Lorenz to describe the colloidal phenomena in which molten metals and salts act as dispersing media. Eitel proposed the term "pyronephelite" to describe colloidal dispersions resulting from cooling a pyrosol, whether the dispersing medium be glassy or crystalline, and pyrosol and pyronephelite are used in the same contrasting sense as hydrosol and hydrogel in ordinary colloid chemistry. To the reviewer the argument for the adoption of the term pyronephelite seems not well founded; both Dana and Hintze are agreed that nephelite gets its name from the fact of its being cloudy when treated with acid, not from its containing inclusions of dispersed material derived from the magmatic solution, as stated on pp. 26-7. The greater portion of the book consists of an excellent summary of the work of Lorenz on the so-called subhalides, which are better regarded as colloidal solutions, analogous to the metallic clouds obtained by Lorenz by dispersing metals in their molten salts. The chapter on colored glasses is a good summary of the literature of this interesting subject, and the chapters on photonephelites (i. e., dispersions in solid media obtained by the action of light) and the photographic image give an excellent treatment of the silver nucleus theory of the photographic latent image. In the final chapter the dispersoids of the mineral world and of slags are treated. To the reviewer the persistent attempts of colloid enthusiasts to call the aqueous glasses obtained in the laboratory and in nature colloidal dispersions of water in glass, or, as put on p. 260, "Thre Beschaffenheit ist diejenige eines hoch dispersen Emulsoides von flüssigen Wasser in amorph-Kolloidaler Glasmasse," seems unjustifiable in that such an interpretation is unnecessary, and adds nothing to the interpretation of such undercooled liquids. The rest of the discussion of minerals deals largely with dispersions obtained by unmixing, of which the unmixing of KCl-NaCl on cooling is an example which is discussed in detail. The concept is applied to the microperthites, which are interpreted as resulting from unmixing of a sodium-potassium feldspar mixed crystal and to aventurine feldspars. The discussion of slags could well be amplified, because in the unmixing of sulphides from silicate melts are obtained many examples of pyronephelite, as well as closely related cases in which the separated sulphides are collected in mass. The book as a whole is an interesting and well written account of a specialized branch of colloid chemistry.

GEORGE W. MOREY

TABELLEN ZUR ALLGEMEINEN UND SPEZIELLEN MINERALOGIE.

PAUL NIGGLI. XVI+300 pages, 228 figures. Bound in cloth, 9.30 M. Verlag von Gebrüder Borntraeger, *Berlin*. 1927.

In this book the author has brought together comprehensive tables for the determination of minerals based upon physical and optical properties as well as geometrical forms. The subject matter and figures have been taken largely from the numerous publications of the author. While it would be impossible in a short review to describe adequately the contents of this text, mention should be made of: (1) a general survey of the 32 crystal classes including the 14 space lattices and an atlas of the crystal forms in each system, (2) tables covering the uses and occurrences of the minerals of economic importance, (3) tables for the determination of gems and semi-precious minerals, and (4) the optical properties of the rock-forming minerals with tables for their determination.

These tables, no doubt, will serve as a convenient laboratory manual because of the fund of information contained and the ease with which the desired information can be found.

W. F. H.

GEOLOGY MANUAL: AN INSTRUCTION AND LABORATORY MANUAL FOR BEGINNERS. PART 1, PHYSICAL GEOLOGY. Richard M. Field, Ph. D. (Princeton University Press, *2nd Edition*, 1927).

As indicated in the preface, this Manual is the result of a pressing need of a laboratory instruction paralleling the introductory course in Geology. It is a wide field, and in the table of contents of this manual are eighteen heads, which have been chosen with great care as they cover the various fields of the subject. In the body of the book their weighed treatment reflects the same careful consideration.

In the field of mineralogy, the list of species studied is reasonable and well selected as after all the number of rock-forming and very important ore minerals is very small.

The text is clear, precise, and positively written, as it should be for a beginner. The Manual should fulfill the function for which it was written and be of great practical assistance in laboratory instruction.

ALEXANDER H. PHILLIPS.

PROCEEDINGS OF SOCIETIES

PHILADELPHIA MINERALOGICAL SOCIETY

Academy of Natural Sciences of Philadelphia, Oct. 6, 1927.

The Philadelphia Mineralogical Society held its thirty-fifth anniversary meeting on the above date, the president, Mr. Vaux, presiding. Thirty-three members and twelve visitors were present.

The following officers were elected for the year 1927-28.

President: George Vaux, Jr.

Vice President: Wm. Clay

Secretary: F. A. Cajori

Treasurer and Councilor: H. W. Trudell

Dr. Witmer Stone, representing the Academy of Natural Sciences, congratulated the Society on attaining its thirty-fifth anniversary.