

BOOK REVIEWS

MINERALOGY. Third Edition, KRAUS, E. H., HUNT, W. F., AND RAMSDELL, L. S., McGraw-Hill Book Co., New York, 1936. ix+638 pp., 812 figs. Price 5.00.

The new edition of this splendid text leaves little to be desired as an authoritative introduction to the science of mineralogy. The many years of successful teaching experience of this competent staff of authors is clearly reflected in the general excellence of this book. Those who are familiar with the earlier editions will be favorably impressed by the notable changes made in the discussions dealing with polarized light, and crystal structure and x-ray analysis, in recognition of the rapid advances made in these phases of mineralogy during the past few years. Proper emphasis has also been placed on the occurrence and commercial uses of the common and important minerals which are discussed in two comprehensive and exceptionally well written chapters comprising a large portion of the text, thus acquainting the beginner with the importance of mineralogy in scientific and industrial development, and in national well-being.

The chapters dealing with crystallography include only the important crystal classes. The discussion is adequate, clearly written and essentially the same as that of the earlier editions. Some may question the value of photographs of crystal models which have been used abundantly throughout these chapters. They are, however, employed as a supplementary aid in the interpretation of the clinographic projections of the various crystal forms, and the reviewer has found such photographs a practical aid to the student in his laboratory studies.

An excellent chapter on qualitative blowpipe methods for the identification of the commoner elements precedes that portion of the book devoted to descriptive mineralogy, but unfortunately, the large size of the text prohibits the inclusion of a complete set of tables arranged for identification of minerals by blowpipe methods. One of the many desirable features of this book is the set of descriptive tables arranged for the sight determination of minerals bound in the back of the text. For some years these tables were published as a separate volume to serve as a guide to the beginner in his laboratory identification of the common minerals. The binding of these tables with the text material affords a convenient reference for both student and teacher. The efforts of the authors in the careful preparation of these determinative tables have made possible a rather unique, though simple, usable means of mineral identification based on the more readily determinable properties, and many years of experience with elementary classes have convinced the writer of their value as a laboratory guide.

The book carries a large number of good illustrations, carefully chosen, including cuts with brief biographical sketches of eminent scientists whose classic contributions to the field of mineralogy are well known. The selection of subject matter, the simple style, and the accuracy and directness of statement are most commendable, and serve to make this text both readable and authoritative.

A. P. HONESS

SNOW STRUCTURE AND SKI FIELDS. By G. SELIGMAN, B. A., F. R. MET. SOC., with an Appendix on Alpine Weather by C. K. M. Douglas, B.A., F. R. Met. Soc., with nearly 400 illustrations, Macmillan, 1936, pp. 555.

This luxurious volume, the price of which is set at \$9.00, is not alone a volume for the alpinist and the ski expert, but is a solid scientific work of a kind that has seldom before appeared. It is in fact in large part a technical treatise on the snow, its physical properties,

and the changes it habitually undergoes during the processes of precipitation, melting, under pressure of dry or moist air, etc., etc.

The scientific study of snow has hitherto been undertaken by but few experts, both because of the inclement and inaccessible places where this can alone be done with any thoroughness, and also because laboratory technique has not been much developed for these special conditions. Up to the present, most of the more valuable studies have been made within the polar regions, in high mountains, or by engineers who have had to concern themselves with the practical problems connected with transportation and avalanching.

Seligman has made a great advance by instituting extended outdoor laboratory studies with the use of fairly simple apparatus, which has however permitted microscopic studies of the snow structures for most types. Out of this study has grown a great collection of photographs and almost 400 of these, and other illustrations, are reproduced in this book of 555 pages. So large a proportion of them are half tones that it has been necessary to employ a highly surfaced paper.

The book is the first systematic treatment of the subject of snow and so the author has found it necessary to give many new names for types which either have not before been described or else had not been clearly shown in their relation to others.

The book is divided into three parts. Part I, which comprises more than one-half of the book, if the appendices are excepted, after developing the method of study is devoted to the nature and structures of snow and the processes by which changes are brought about—air hoar and rime firnification, wind packing, drifting and erosion, cornices, stratification and water movements in snow.

Parts II and III are given over to avalanches, especially conditions which favor their formation, their slow movement; dry, wet, wind-slab, and ice avalanches, mixed avalanches and avalanches in series. There is then taken up from the point of view of the skier and alpinist the matter of safeguarding against accidents from avalanches, based upon the indications of danger which have been supplied by scientific studies and by experience.

It is not too much to say that this book has made a large contribution of original scientific research on the subject of snow, and has done a service of high order in bringing into an essentially new branch of science a thorough organization. The work is thoroughly documented and the literature supplied, which hitherto had been scattered, is very impressive. A detailed index of no less than 13 pages fittingly caps the effort. The work is surprisingly free from typographical errors in view especially of the foreign languages so largely represented in the references. Its timely appearance is very nearly synchronous with the organization of an International Commission on Snow which, under the chairmanship of Professor J. E. Church of the University of Nevada, held its first conference in Edinburgh in September.

WILLIAM H. HOBBS

NEW MINERAL NAMES

ADDITIONAL DATA

Herzenbergite (Kolbeckine)

PAUL RAMDOHR: Vorkommen und Eigenschaften des Herzenbergits: *Zeit. Krist.*, vol. **92**, pp. 186–189, 1935.

CHEMICAL PROPERTIES: From mineralographic and x-ray studies, identical with SnS, hence not Sn₂S₃.

MINERALOGRAPHIC PROPERTIES: Reflection-pleochroism weak in both air and oil, || to (001) paler and more blue white, ⊥ to (001) dark and in contrast, somewhat yellowish white. Extinction parallel; in 45° position with crossed nicols, red to yellowish red tone,