

## ABSTRACTS OF MINERALOGICAL LITERATURE

RECENT ADVANCES IN SCIENCE; MINERALOGY AND CRYSTALLOGRAPHY. ALEXANDER SCOTT, University, Glasgow. *Science Progress*, 45, 36-41, July, 1917.

PRELIMINARY NOTE ON SOME MINERALS OF THE METAL-LIFEROUS DEPOSITS OF BORGOFRANCO D'IVREA. G. LINCIO, University of Modena. *Atti accad. Lincei*, 25, I, 227-230, 1916; thru *Chem. Abstr.*, 11 (7), 767.

A fibrous lead-gray mineral was analyzed and proved to be an impure antimoniferous arsenic (As, Sb). E. T. W.

THE CHEMICAL COMPOSITION OF A SULFO-SALT FROM SAN GIORGIO, SARDINIA. PROBO COMUCCI, Florence. *Atti accad. Lincei*, 25, II, 111-114, 1916; thru *Chem. Abstr.*, 11 (7), 767.

The composition of the mineral was found to be  $1.66 \text{ PbS.Sb}_2\text{S}_3$ ; it is thus near pligionite. E. T. W.

NOTABLE CRYSTALS OF CALCITE FROM ANDREASBERG HARZ. C. VIOLA. *Atti accad. Lincei*, 25, II, 23-28, 1916; thru *Chem. Abstr.*, 11 (7), 767.

A crystallographic description of a specimen in the mineralogical museum, at Parma. E. T. W.

THE CYCLOPITE (ANORTHITE) FROM SANTA MARIA LA SCALA, NEAR ACIREALE. S. D. FRANCO, University of Catania. *Atti accad. Lincei*, 25, I, 693-697, 1916; thru *Chem. Abstr.*, 11 (7), 767.

A crystallographic description and analysis are given. E. T. W.

THE SO-CALLED THULITE-PYROSCLERITE ROCK FROM CAMPO A PERI, ELBA. PROBO COMUCCI, Florence. *Atti accad. Lincei*, 25, I, 693-697, 1916; thru *Chem. Abstr.*, 11 (7), 768.

Analysis shows this thulite to be a variety of zoisite. E. T. W.

THE CRYSTALLOGRAPHIC CONSTANTS OF EPIDOTE AND OF CLINOZOISITE BETWEEN 15 AND 400°. FAUSTA BALZAC, University of Turin. *Atti accad. Lincei*, 25, I, 811-815, 1916; thru *Chem. Abstr.*, 11 (7), 768.

The changes in angles with temperature are different for these two minerals, showing their distinctness. E. T. W.

CRYSTALLOGRAPHIC NOTE ON THE PIEDMONTITE FROM ST. MARCEL, VALLE D'AOSTA. FAUSTA BALZAC, University of Turin. *Atti accad. Lincei*, 25, I, 589-592, 1916; thru *Chem. Abstr.*, 11 (7), 768.

A crystallographic description. E. T. W.

CRISTOBALITE. H. LE CHATELIER. *Compt. rend.*, 163, 948-952, 1916. A crystallographic description. E. T. W.

EXPERIMENTS IN ETCHING SPHERES OF QUARTZ AND  $\alpha$ -QUARTZ. R. NACKEN, Tübingen. *Neues Jahrb. Min. Geol.*, 1916, I, 71-82.

Small spheres were cut from an untwinned crystal, and etched with  $\text{HF} + \text{H}_2\text{SO}_4$  and at higher temperatures with fused  $\text{NaPO}_3$ . After heating with the latter to 700°, the etch-figures were studied. They must correspond to  $\alpha$ -quartz, since ordinary quartz goes over into that form at 575°, and their arrangement proves that  $\alpha$ -quartz is hexagonal-trapezohedral in symmetry. E. T. W.

INCLUSIONS OF IRON MINERALS IN MICA AND SOME PROPERTIES OF GOETHITE. O. MÜGGE, Göttingen. *Neues Jahrb. Min. Geol.*, 1916, I, 55-70.

The occurrence of goethite and of colloidal iron hydroxide from which it has been derived in plates of mica from India is described. E. T. W.

SOME NOTES ON JAPANESE MINERALS. S. ICHIKAWA. *Am. J. Sci.* [4], 44 (7), 63-68, 1917.

Comprises notes on: Natural etching of garnet crystals; elongated gypsum crystals; dendrites of manganese oxide. S. G. G.

ILSEMANNITE, HYDROUS SULFATE OF MOLYBDENUM. WALDEMAR T. SCHALLER, U. S. Geol. Survey. *J. Wash. Acad. Sci.*, 7 (13), 417-420, 1917.

An analysis of ilsemannite from near Ouray, Utah, is presented, and the mineral is shown to be a sulfate and not an oxide as heretofore supposed. The formula  $\text{MoO}_3 \cdot \text{SO}_3 \cdot 5\text{H}_2\text{O}$  is suggested. It may have originated by the oxidation of molybdenite, or of the colloidal form of this, jordisite, or the alteration of other molybdenum-bearing minerals. S. G. G.

THE THERMODYNAMIC REVERSIBILITY OF THE EQUILIBRIUM RELATIONS BETWEEN A STRAINED SOLID AND ITS LIQUID. F. E. WRIGHT AND J. C. HOSTETTER, Geophysical Laboratory. *J. Wash. Acad. Sci.*, 7 (13), 405-417, 1917. An experimental study of crystal growth under pressure. S. G. G.

THE NOMENCLATURE AND CLASSIFICATION OF THE NATIVE ELEMENT MINERALS. EDGAR T. WHERRY, U. S. National Museum. *J. Wash. Acad. Sci.*, 7 (14), 447-456, 1917.

The nomenclature of the native elements is discussed and a revised classification of them proposed. A table is given showing the classification, with reasons for the names adopted, synonyms, and references to the literature when the minerals are not noted in Dana's System. Reprints obtainable from author on request. S. G. G.

RADIOACTIVE HALOS. J. JOLY. *Nature*, 99 (2492), 456-458; (2493), 476-478, 1917.

THE ORIGIN OF FLINT. A discussion.

E. RAY LANKESTER, —*Nature*, 99 (2484), 283-284, 1917,—briefly reviews some of the previous work on the origin of the black flint nodules occurring abundantly in stratified layers in the Upper-Chalk of England. L. points out the occurrence of continuous sheets of black tabular flint occurring as fissure-fillings that traverse the stratified layers of chalk, and flint nodules at a sharp angle, which may be seen to advantage at a chalk escarpment—at Rottingdean, near Brighton. Such an occurrence indicates the deposition of the flint after the fissuring of the chalk, and, therefore, almost certainly, after its elevation, and probably due to atmospheric fresh-water. He, further, believes it improbable that the nodules originated differently from the tabular masses. A further fact of importance is that the color of the flint is presumably due to carbon. Arsenic was found in the flints; this may be due to its original presence in minute quantities in sponges. Some of the problems of the physical properties of flints are noted.

R. M. CAVEN, *ibid.* (2485), 306, 1917, asks if ferrosiferrous oxide may not be the coloring agent of the flint instead of carbon.

BENJAMIN MOORE, *ibid.* (2486), 324, 1917, suggests the following theory: The flints are often fantastically shaped, sometimes like gnarled roots, but there is usually one spot which looks like the gutter of a mould. "This suggests that the silica might have trickled thru an opening in the chalk held

up in colloidal solution by carbonic acid, and then the carbonic acid combining with the calcium carbonate of the chalk, forming soluble calcium bicarbonate, thus at the same time enlarging the cavity and producing the conditions for the deposit of the silica, which is no longer held up by the carbonic acid, and is precipitated by the crystalloidal calcium bicarbonate now gone into solution." This view is supported by the tabular flints referred to by Lankester. An attempt was made to imitate this procedure experimentally, which is described.

GRENVILLE A. J. COLE, *ibid.* (2486), 324, 1917, points out that microscopic examination of thin sections shows that the vast majority of flints are the result of chemical replacements of the limestones in which they occur, excluding fissure fillings.

S. C. BRADFORD, *ibid.* (2486), 324, 1917, remarks that the structure of flints, referred to as consisting of minute crystals of silica imbedded in colloid silica, may indicate the formation of such flints from the gradual crystallization of silicic acid gels [in other words, that flint is a meta-colloid. Editor].

CECIL CARUS-WILSON, *ibid.* (2487), 345, 1917, asks why the color of flints, if it be due to carbon, does not extend to the white cortex. As Judd pointed out, the black color is an optical effect, the black silica becoming white on powdering.

J. J. ALLEN, *ibid.* (2487), 345, 1917, believes Dr. Caven's suggestion that the color is due to ferrosiferrous oxide is supported by the fact that flints which have been in contact with gas-lime become stained deep blue, which has been shown by analysis to be due to ferric ferrocyanide. S. G. G.

STUDIES ON THE ORIGIN OF MISSOURI CHERTS AND ZINC ORES. G. H. COX, R. S. DEAN, AND V. H. GOTTSCHALK. *Bull. School Mines and Met., Univ. Mo.*, 3 (2), 34 pages, 1916.

Includes a discussion of colloids, with special reference to the silica occurring as chert and jasperoid in the Joplin region. The dark color of some jasperoid, usually ascribed to organic matter, is shown to be due to colloidal PbS or CuS. The sulfide minerals of this deposit are believed to have been transported as colloids. The varying colors of the sphalerites found in this region are suggested to be due to pyrite and its alteration products, mostly in submicroscopic inclusions. E. T. W.

THE CRYSTAL FORM OF SPENCERITE. T. L. WALKER, Royal Ontario Museum of Mineralogy, Toronto. *J. Wash. Acad. Sci.*, 7 (14), 456-458, 1917.

Small druses of crystals were obtained from cavities sealed by calamine from the type locality, the H. B. Mine, near Salmo, B. C. Monoclinic:  $a : b : c = 1.0125 : 1 : 1.0643$ ;  $\beta = 63^\circ 13'$ . The following forms were measured: 120, 230, 110, 520, 101, 100, 001,  $\bar{1}04$ ,  $\bar{1}02$ ,  $\bar{3}04$ ,  $\bar{1}01$ ,  $\bar{2}01$ , 023, 021, 121, 346,  $\bar{1}11$ ,  $\bar{1}21$ ,  $\bar{2}21$ , and  $\bar{2}41$ . All the crystals are twinned. S. G. G.

THE COLOR OF AMETHYST, ROSE AND BLUE VARIETIES OF QUARTZ. THOMAS L. WATSON AND R. E. BEARD, University of Virginia. *Proc. U. S. Nat. Mus.*, 53, pp. 553-563, 1917.

The work of previous writers is discussed and the results of analyses, microscopic examination and heating tests by the authors are given. These are thought to confirm the authors' view that a very small amount of Mn present causes the color of the amethyst, and that the color of rose quartz can not be due to an inorganic substance. It is thought improbable that the colors are due to the foreign inclusions visible under the microscope in the case of amethyst and rose quartz. The senior author believes, however, that the color of the blue quartz of Virginia and elsewhere is due to the behavior of light on the minute rutile inclusions and not to a state of strain, as has been suggested. S. G. G.