

THE MINERALOGICAL SOCIETY OF GREAT BRITAIN

London, March 20, 1917, Mr. W. Barlow, President, in the chair.

A. HOLMES and DR. H. F. HARWOOD: *The basaltic rocks of Spitsbergen and Franz-Joseph Land.* J. W. EVANS: *A general proof of the limitation of the symmetry-numbers of crystals.* E. S. FEDEROV: *The numerical relation between zones and faces of a polyhedron.* The numerical relation shown by axes of symmetry situated in planes of symmetry pointed out by G. Cesaro in 1915 is only a particular case of the more general one deduced by the author in 1885. A. LEDOUX, T. L. WALKER, and A. C. WHEATLEY: *The crystallization of parahopeite.* Crystals in the Royal Ontario Museum of Mineralogy from the original locality, Broken Hill, Northwestern Rhodesia, are triclinic with the axial ratios $a : b : c = 0.7729 : 1 : 0.7124$; $\alpha = 93^{\circ}22'$, $\beta = 91^{\circ}12'$, $\gamma = 91^{\circ}22'$. Thirty-two forms are recorded. The crystals have a perfect cleavage parallel to the brachypinacoid, and show lamellar cleavage parallel to the macropinacoid. The angle of optical extinction on the cleavage is 10° with reference to the twin-lamellae. *Nature*, 99 (2474) 97-98, 1917.

ABSTRACTS OF MINERALOGICAL LITERATURE

HALLOYSITE FROM COLORADO. ESPER S. LARSEN, U. S. Geological Survey, and EDGAR T. WHERRY, U. S. National Museum. *J. Wash. Acad. Sci.* 7 (7) 178-180, 1917.

Analyses of two halloysites from the upper workings of the fluorite mine at Wagon Wheel Gap, Colorado, associated with credite and gearsutite, respectively, were found to differ in their water content. Experiment showed the water to be held in part mechanically, being given off very readily, the resulting partially dehydrated material being near kaolinite.

"The close approach of this and many other analyses of halloysite to the composition $Al_2O_3 \cdot 2SiO_2 \cdot 2H_2O \cdot Aq$, combined with the results of optical examination . . . , indicates that the material called halloysite is the amorphous (isotropic) mineral corresponding to crystalline kaolinite, holding thru capillarity or adsorption more or less excess water." S. G. G.

NEODYMIUM AS THE CAUSE OF THE RED-VIOLET COLOR IN CERTAIN MINERALS. EDGAR T. WHERRY, U. S. National Museum. *J. Wash. Acad. Sci.* 7 (6) 143-146, 1917.

Examination of red-violet calcite from Joplin, Mo., Rossie, N. Y., and Sterlingbush, N. Y. showed them all to yield the characteristic absorption spectrum of the rare-earth metal neodymium and it is believed that the red-violet color is due to this element. Evidence is brought forward to show that manganese, to which there is a tendency to attribute all such colors, cannot be the coloring agent in these calcites. Violet apatite does not usually show an absorption spectrum, but the well-known brown variety from Ontario, Canada, and red-violet material from the San Diego Mine, Mesa Grande, Cal. yield that of neodymium. In the former case the violet color is obscured by a green, due to iron. S. G. G.

ON THE CALCIUM-PHOSPHATE IN METEORIC STONES. GEORGE P. MERRILL, U. S. Nat. Mus. *Am. J. Sci.*, [4] 43 (4) 322-324, 1917.

Unmistakable evidence of the presence of a calcium phosphate, tentatively designated francolite, has been found in 16 meteoric stones. This material differs from normal apatite in its optical and physical characteristics: "Occurrence, sporadic, without crystal form, very brittle, colorless; cleavage for the most part lacking tho sometimes imperfect and interrupted, showing angles of 60° and 120° ; optically biaxial and positive (?), birefringence weak, less than 0.005, refractive indices $\alpha = 1.623 \pm 0.002$ and $\gamma = 1.627 \pm 0.005$; no

pleochroism and often undulatory extinction, polarizing in light and dark colors, sometimes almost isotropic; easily soluble in cold dilute nitric acid and less so in hydrochloric, giving solutions reacting for Ca and P; it is a product of the last stages of consolidation." S. G. G.

GEMS AND PRECIOUS STONES IN 1915. WALDEMAR T. SCHALLER, U. S. Geol. Survey, *Min. Res. U. S.*, 1915, (2) 29, 843-858.

A statistical review of the production of gems in the United States in 1915. S. G. G.

USEFUL MINERALS OF THE UNITED STATES. FRANK C. SCHRADER, RALPH W. STONE, and SAMUEL SANFORD. U. S. Geological Survey *Bulletin* 624, 412 pp. 1917.

This bulletin gives concisely the location, by states and counties, of the principal deposits of useful minerals, and includes a glossary showing the composition and character of each mineral and the location of its principal deposits. It gives also the principal uses of each mineral.

S. G. G.

A DESCRIPTIVE CATALOGUE OF THE METEORITES COMPRISED IN THE COLLECTION OF THE GEOLOGICAL SURVEY OF INDIA, CALCUTTA (ON AUGUST 1st, 1914). J. COGGIN BROWN. *Memoirs Geol. Survey India*, 43 (2) 149-287.

THE GENESIS OF PLEOCHROIC HALOES. J. JOLY, Univ. of Dublin. *Phil. Trans. Royal Soc. London*, 217 (A, 551), 51-79, 1917.

A NEW FIND OF METEORIC STONES NEAR PLAINVIEW, HALE COUNTY, TEXAS. GEORGE P. MERRILL. *Proc. U. S. Nat. Mus.*, 52, 419-422, 1917.

MINERALOGICAL NOTES, IV. THE IDENTITY OF BLACK RUTILE AND STRUEVERITE. WILLIAM P. HEADDEN. *Proc. Colo. Sci. Soc.*, 11, 177-183, 1917.

NOTES ON RARE MINERAL OCCURRENCES. RICHARD C. HILLS. *Proc. Colo. Sci. Soc.*, 11, 203-208, 1917.

Comprises notes on: Galena with octahedral cleavage; Gold in limonite; Gold in barite; Gold with enargite; Gold in calcite; Native silver in selenite.

S. G. G.

A STUDY OF THE MAGMATIC SULFID ORES. C. F. TOLMAN, JR. and AUSTIN F. ROGERS. Stanford University, Cal. *Publication*, 1916; 76 pp., 7 text figs., 20 plates. [Price \$1.00.]

Comprises a discussion of the bearing of magmatic differentiation on ore segregation, and a description of the various deposits of the magmatic ores. From a microscopic study of opaque sections the authors conclude that "..... the magmatic ores in general have been introduced at a late magmatic stage as a result of mineralizers, and that the ore-minerals replace the silicates." S. G. G.

CRYSTALS OF PYROMORPHITE. EARL V. SHANNON, Yale University. *Am. J. Sci.*, [4] 43 (4) 325-327, 1917.

Crystals of pyromorphite were found occurring in the deeper levels in the Caledonia mine, Coeur d'Alene District, Idaho, in unaltered galena. Color: colorless, faintly pink to deep grayish violet; luster: adamantine in the smaller crystals and resinous in the larger opaque ones. The forms noted are: x (1011), and m (1010), the larger crystals having curved prism faces and brush-like terminations. V, Ca, and As were found to be absent.

Examination of crystals from Broken Hill, N. S. W. showed the following dominant forms: a (1120), s (1121), m (1010) with a small base and occasional first order pyramid. S. G. G.

CONTRIBUTIONS FROM THE DEPARTMENTAL LABORATORY. J. C. H. MINGAYE. *Records Geol. Survey N. S. W.* 9, (3), 127-173, 1916.

Includes analyses and notes on: The chemical composition of some zeolites from Prospect quarry, near Parramatta; Chlorite, from Nundle, a remarkable variety of gem quality; Autunite from Carcoar; Beryl from Torrington; Chenevixite from the Ardlethan Tin Fields; Notes on the composition of the Delegate meteorite; Notes on the Molong meteorite; Notes on Gilgoin meteorite, No. 7, Brewarrina, N. S. W.; Analyses of Obsidianites from the Uralla District and Charlotte Waters; Notes on chillagite.

S. G. G.

NEW PROCESS OF COLORING GLASS BY SHORT WAVE LENGTHS OF LIGHT. H. ROSENTHAL. Read before the N. Y. Section of the Am. Chem. Soc., June, 8th 1917. (See report of meeting of N. Y. M. C. of May 9th, 1917, on p. 95).

"The glass is colored by radiations derived from a 'special x-ray tube' about 4 inches in diameter having an anode of solid tungsten supported on a rod of molybdenum, and a cathode consisting of a tungsten spiral which is electrically heated. Unless the filament is heated the tube shows no conduction in either direction and is self rectifying with an alternating current because it suppresses any current in the direction which does not make the hot filament the cathode. In order to make this condition stable the anode is water-cooled and the bulb cooled by compressed air. It is operated by a high-tension transformer.

The penetration of the emitted rays could be varied by the voltage applied and the current by the temperature of the cathode spiral.

Under the rays from this tube several kinds of optical glass become colored of various yellow to brown tints progressively thruout, and one assumed to contain manganese acquired an amethystine or purple tint.

Some semi-precious stones can be decededly changed in color by these rays. The pink California spodumene can be changed in a few minutes to an emerald-green.¹ Other minerals colored by manganese respond to this form of energy.²

W. G. L.

¹ In specimens of the spodumene thus changed in color seen by the reviewer the green tint appeared to be of no greater intensity than the original pink or lilac, and of hiddenite rather than emerald tint.

² No specimens of minerals other than spodumene illustrating these statements have been seen by the reviewer.

EXCHANGE NOTICES

Morton L. Jandorf; York, Pa. Carnotite, Colorado; metaheawettite, Utah. Frederick Oidach; 2008 N. Mervine St., Philadelphia. Fine actinolite from Lafayette, Pa.