simultaneously to a large number of students. J. S. Spencer: Mineralogical characters of "turite" (= turgite) and some iron-ores of Nova Scotia. The mineral collection of the late Dr. H. S. Poole, which was presented to the British Museum in 1917, contains among the iron-ores specimens of magnetite, hematite, "turite," goethite, limonite, chalybite (siderite), mesitite, and ankerite from many localities in Nova Scotia. The dehydration curves and optical properties of "turite" ($2Fe_2O_3.\ H_2O$), goethite ($Fe_2O_3.H_2O$), and limonite ($2Fe_2O_3.3H_2O$) are regarded as indicating that these, at least, among the large group of ferric hydroxide minerals, are distinct species with crystalline structure; some others are colloidal. "Turite" (= turgite, an incorrect German transliteration from the Russian) is a hard, lustrous, black mineral, with a radial-fibrous and concentric-shelly structure, and gives a dark cherry red streak; the fibers are optically birefringent and strongly pleochroic. Sharp brilliant crystals with the form of goethite, but consisting of anhydrous ferric oxide, or pseudomorphs of hematite after goethite, were also described. *Nature*, **102**, (2569), 418–419, 1919.

NEW MINERALS

ORVILLITE

T. H. Lee. Two new zircon minerals—orvillite and oliveiraite. *Am. J. Sci.*, [4], **47**, (2), 126–132, 1919. (Translated by J. C. Branner from *Revista da Sociedade Brasileira de Sciencias*, No. 1, pp. 31–38, Rio de Janeiro, 1917.)

NAME: after the late Dr. Orville A. Derby.

An analysis of zircon crystals in cavities in "caldasite,"—a rock composed of baddeleyite, from Caldas, Minas Geraes,—indicated the presence of a relatively soluble zirconium silicate corresponding to $8ZrO_2.6SiO_2.5H_2O$. Some of the material was separated under the microscope by Derby and analyzed: ZrO_2 68.04, SiO_2 25.45, volatile matter and combinedH_2O 6.35, sum, 99.72 per cent. No description of the physical properties is given.

S. G. G.

OLIVEIRAITE

T. H. Lee, *place cited*. NAME: after Dr. Francisco de Paula Oliveira.

COLOR: yellowish green. Apparently amorphous, but under the microscope shows in places multiple twinning and a radial fibrous structure.

COMPOSITION: a hydrated titanate of zirconium $3ZrO_2.2TiO_2.2H_2O$. An analysis of material selected under the microscope gave: ZrO_2 63.36, TiO_2 29.92, combined H_2O 6.48, sum 99.76 percent.

OCCURRENCE: with euxenite, as a secondary product.

LOCALITY: Espirito Santo, Brazil. S. G. G.

ABSTRACTS OF MINERALOGIC LITERATURE

TWO NEW ZIRCON MINERALS—ORVILLITE AND OLIVEIRAITE. T. H. LEE. *Am. J. Sci.*, [4], **47**, (2), 126–132, 1919. (Translated by J. C. Branner.)

The two minerals described have been noted above, under NEW MINERALS. The paper includes 2 analyses of euxenite from Espirito Santo, and Pomba, Minas Geraes, Brazil. An analysis of the yellow crust due to the decomposition of the euxenite gave: Cb_2O_5 and Ta_2O_5 52.51, TiO_2 25.00, rare earths R_2O_3 7.40, UO_3 4.93, combined H_2O 11.14, sum 100.98 per cent. S. G. G.

REVIEW OF PROGRESS OF MINERALOGY FROM 1864 TC 1918. G. T. Prior. *Geol. Mag.*, [6], **6**, (1), 10–16, 1919.

GADOLINITE FROM THE RADAUTHAL, HARZ. J. Fromme. *Centr. Min. Geol.*, **1917**, 305–307; thru *J. Chem. Soc.*, **112**, ii, 497, 1917.

A description with analysis of gadolinite crystals occurring with quartz, prehnite, and allanite in cavities in graphic granite. E. T. W.

ANALYSES OF VENETIAN MINERALS. E. Billows. *Z. Kryst. Min.*, **55**, 389–390, 1916; thru *J. Chem. Soc.*, **112**, ii, 492–493, 1917.

Data are given for allophanite, analcite, heulandite, and the new zeolite arduinite. E. T. W.

PISANITE FROM LADING, CARINTHIA. H. Leitmeier. *Centr. Min. Geol.*, **1917**, 321–331; thru *J. Chem. Soc.* **112**, ii, 537–538, 1917.

Two new analyses are given, and the composition of this mineral discussed. An isomorphous series, with a gap at both ends, is represented. E. T. W.

STRONTIANITE DEPOSITS NEAR BARSTOW, CALIF. A. Knopf. *U. S. Geol. Survey Bull.* **660-I**, 257–270, 1918.

A geological description, with some chemical data, of interesting occurrences of strontianite. This material occurs in dense gray form resembling limestone, and in fibrous masses of resinous luster, imitated by brown calcite from other localities in the region. E. T. W.

THE IDENTITY OF SPANGITE WITH PHILLIPSITE. F. Zambonini. *Atti acad. sci. Torino*, **53**, 47–54, 1917–18; thru *Chem. Abstr.*, **12**, (11), 1161, 1918.

An original specimen of the so-called spangite has been examined microchemically, and found to be free from magnesium; its properties are those of phillipsite. E. T. W.

OPTICAL FLUORITE IN SOUTHERN ILLINOIS. Joseph E. Pogue. *Ill. Geol. Survey Bull.* **38**, 8-page extract, 1918.

The properties needed to render fluorite of value for lens manufacture are discussed, and the discovery of deposits of sufficient extent to supply domestic demands is announced. E. T. W.

THE HALOGEN SALTS OF SILVER AT WONDER, NEVADA. J. A. Burgess. *Econ. Geol.*, **12**, 589–594, 1917.

The occurrence of embolite, iodobromite, and iodyrite is described, and the source of the halogen elements discussed. E. T. W.

ANHYDRITE IN BLOCKS CARRIED BY THE LAVA OF STROMBOLI. G. Ponte. *Atti accad. Lincei*, **26**, II, 348–350, 1917; thru *Chem. Abstr.* **12**, (13), 1375, 1918.

A description with analysis of rough anhydrite crystals in cavities in dolerite blocks. E. T. W.

THE FORMATION OF DIAMOND. C. A. PARSONS. *Engineering,* **105**, 485–487, 1918.

From new experiments it is concluded that in the artificial production of diamond in molten iron the presence of gases, especially of carbon monoxide, is favorable. The possibility is discussed of making diamonds of commercially valuable sizes. E. T. W.

THE RELATION OF SPHALERITE TO OTHER SULFIDES IN ORES. L. P. TEAS. *Bull. Am. Inst. Mining Eng.*, **1917**, 1917–1931.

Mineralographic studies of about 200 specimens were made, five different paragenetic types being represented. Certain correlations could be made between associations and origin, as for instance, chalcopyrite is often found, arranged along crystallographic directions, in sphalerite formed by ascending juvenile waters, but not in that formed by meteoric waters. E. T. W.

BLACK SULFUR. BERNHARD NEUMANN. *Z. angew. Chem.*, **30**, I, 165–168, 1917; thru *J. Chem. Soc.*, **112**, ii, 464, 1917.

The black sulfur from Mexico which has been regarded as an allotropic form of the element (and therefore as an independent mineral species) has been examined, and is found to consist of ordinary sulfur with inclusions of carbon and metallic sulfides. E. T. W.

SYNTHETIC EXPERIMENTS IN THE PYROXENE GROUP. VERA SCHUMOFF-DELEANO. *Centr. Min. Geol.*, **1917**, 290–304; thru *J. Chem. Soc.*, **112**, ii, 496–497, 1917.

In order to obtain evidence as to the nature of aluminous augite, diopside was fused with Al_2O_3 and with Fe_2O_3. About 15% of each oxide was found to be taken up, altho when both were added at the same time new minerals were formed. A fusion with the composition $MgAl_2SiO_6$, often assumed as present in the natural mineral, was found to be unstable; but $MgSiO_3$ and $CaSiO_3$ will take up 15% of Al_2O_3 in solid solution. E. T. W.

AN AMERICAN OCCURRENCE OF PERICLASE AND ITS BEARING ON THE ORIGIN AND HISTORY OF CALCITE-BRUCITE ROCKS. AUSTIN F. ROGERS. *Am. J. Sci.*, [4], **46**, (4), 581–586, 1918.

Periclase occurs as colorless 1 mm. cores in brucite in a crystalline limestone at the City Quarry, Riverside, Cal. The brucite is dark gray to brown and composed of concentric layers of microscopic fibers, representing an alteration product of the periclase. Associated with it are pyrrhotite, olive-green spinel ($n > 1.740$), magnetite, antigorite, and chondrodite.

Other occurrences of calcite-brucite rocks in America are noted from the Mountain Lake Mine, near Salt Lake City, Utah; the Phillipsburg Quadrangle, Mont.; and Crestmore, Cal.; and it is believed that these rocks are also due to the alteration of periclase to brucite caused by ascending hydrothermal waters. The following history is given for the Crestmore occurrence: sedimentary limestone, dolomitic limestone, dedolomitized limestone, with periclase, calcite-brucite rock, calcite-hydromagnesite rock, calcite-deweylite rock; minerals in deposits in general are formed in such stages.

S. G. G.

MEANS OF SOLVING CRYSTAL PROBLEMS. J. M. Blake. *Am. J. Sci.*, [4], **46**, (5), 651–662, 1918.

LUMINESCENCE OF ZIRCONS. F. P. Venable. *J. Elisha Mitchell Sci. Soc.*, **34**, (3), 73–75, 1918.

A review of the literature on the composition, cause of color, luminescence, etc., of zircon. S. G. G.

ORIGIN OF SERPENTINE, A HISTORICAL AND COMPARATIVE STUDY. W. N. Benson. *Am. J. Sci.*, [4], **46**, (6), 693–731, 1918.

After reviewing critically the extensive literature on the origin of serpentine, the writer concludes that his several inquiries support the general view in regard to the large ultrabasic masses that the chrysotile or antigorite serpentine of which they are composed is an alteration product of an originally intrusive peridotite, often more or less pyroxenic, and that in some cases at least the hydration was brought about by the agency of waters emanating from the same magma that produced the peridotite, tho not generally until a considerable amount of further differentiation had taken place. The change was, however, completed by the end of the one orogenic period of vulcanicity. There is yet to be explained satisfactorily the absences of hydration in certain cases, but it is not so clear that serpentine can be formed by the action of deep circulating epigene waters on peridotites that have escaped hydrothermal alteration. Peripheral serpentinization is somewhat analogous to greisenization of granite. Iddingsite and bowlingite are products of true weathering. S. G. G.

The recently issued Annual Report of the Smithsonian Institution for 1918 (June 1917–June 1918) lists the following especially noteworthy accessions to the collections: A series of minerals of the rarer metals, obtained chiefly thru the efforts of Mr. Frank L. Hess, including a block of scheelite ore, weighing over 1,000 kg., believed to be the largest mass ever mined; many fine specimens of molybdenite, ferberite, carnotite, uvanite, etc.; and a mass of sandstone impregnated with the blue water-soluble molybdenum mineral ilsemannite. In the division of mineralogy and petrology gifts of exceptional value from Mr. C. S. Bement included particularly fine exhibition specimens of hetaerolite; crystals of rhodonite, zincite, leucophœnicite, manganosite and willemite; a large cut gem of the last named; and a specimen of willemite with friedelite and a white zeolite(?); all from Franklin Furnace, N. J.; calamine, pyrite and milky quartz, from Colorado; free crystals of scheelite and scheelite attached to chalcopyrite, from Mexico; an exceptionally fine large twinned crystal of quartz and an unusual crystal of danburite, from Japan; the rare mineral achtaragdite and a variety of vesuvianite, viluite, from Siberia. The American consul at Changsha, China, Mr. Nelson T. Johnson, donated a specimen of twinned cinnabar crystals from China, showing 7 groups of crystals more than 1.5 cm. in diameter, as far as known the finest of its kind in the United States. Other additions included crystals of tetrahedrite imbedded in quartz, galena with crystals of anglesite, gem stones of variscite, opalized shells from South Australia, beryl, milky quartz crystals, crystals of selenite, some large pyrites, aragonite crystals, and type specimens of minerals described by Dr. Henry S. Washington, Professor A. S. Eakle, and Dr. W. F. Hillebrand.