In the case of the lepidolite, gallium was extracted by a new method. One kilogram of lepidolite yielded 0.0887 gm. of Ga_2O_3. The gallium content of the mineral is thus very close to 0.007 per cent.

In the second paper germanium has been detected and estimated by a similar method. Enargite, Santa Fé Mine, Chiapas, Mexico, was estimated to contain more than 0.1 per cent Ge. Enargite, Butte, Montana, 0.01 per cent Ge. Enargite, Central City, Colorado, and enargite, Braden Copper Company, Chile, more than 0.01 per cent. A cassiterite from north of Battle Mountain, Nevada, was estimated to contain more than 0.005 per cent Ge.

While the germanium content of enargite is less than that of the rare minerals argyrodite, canfieldite and germanite, it can be used as a source of this element on account of its much greater abundance. GeO_2 was extracted from two of the enargites.

E. E. FAIRBANKS

NEW MINERAL NAMES

Antamokite

Antamokite, a new telluride discovered in the Phillipines. *Eng. Min. Jour.*, (Reported by J. S. Colbath). **125**, 616, 1928.

NAME: From the town of *Antamok*, near which the mineral was found.

CHEMICAL PROPERTIES: A telluride of gold and silver. Analysis not given. Contains no lead, copper or antimony.

PHYSICAL PROPERTIES: Color bluish-grayish white. Streak dark gray. H. low, probably between 2 and 3.

METALLOGRAPHIC PROPERTIES: HNO_3 slowly tarnishes it slightly dark and rubs clean. Upon long interaction it becomes pitted. HCl, KCN, KOH are negative. $FeCl_3$ immediately tarnishes the mineral iridescent and remains so after rubbing. $HgCl_2$ slowly tarnishes it yellow and rubs faint yellow.

OCCURRENCE: Found in quartz veins in vugs in andesite associated with tetrahedrite, chalcopyrite and a little pyrite.

W. F. FOSHAG.

Tikhvinite

J. M. ANSHELESS AND N. J. VLODAVETZ: New Strontium Mineral from Bauxite Deposits in Tikhvin district, Russia. *Mem. Soc. Russ. Mineral.*, 2d series, **56**, 53-60, 1927. (Russian with English summary).

NAME: From the locality, *Tikhvin* district, Russia.

CHEMICAL PROPERTIES: A sulfate-phosphate of strontium and aluminum. Formula: $2SrO \cdot 3Al_2O_3 \cdot P_2O_5 \cdot SO_3 \cdot 6H_2O$. Analysis: SiO_2 0.56; TiO_2 0.16; Al_2O_3 31.14; Fe_2O_3 2.25; SrO 24.43; P_2O_5 18.05; SO_3 8.47; H_2O 12.54. Sum 97.60. Insoluble in acids.

PHYSICAL AND OPTICAL PROPERTIES: Color white. Optically anisotropic. $n=1.62$. H.=4.5. Sp. Gr. 3.32.

OCCURRENCE: Found as microcrystalline masses having the size of peas filling cavities in bauxite.

DISCUSSION: A well defined member of the alunite-beudantite group, corresponding to a sulfate-hamlinite.

W. F. F.

Slavikite

RUDOLF JIRKOVSKY AND FRANTIŠEK ULRICH: Slavíkit, nový minerál. (Slavikite, a new mineral). *Věstník Státního Geol. Ústavu Česko-slovenské Republiky*, **2**, 345-351, 1926.

NAME: In honor of F. *Slavik*, Director of the Mineralogical Laboratory of the University of Prague.

CHEMICAL PROPERTIES A hydrous sulfate of ferric iron, soda and potash: $(Na,K)_2SO_4 \cdot 2Fe_5(OH)_3 \cdot (SO_4)_6 \cdot 63H_2O$. Analysis: SO_2 34.06, Fe_2O_3 20.08, Al_2O_3 4.29, CaO 0.01, Na_2O 1.63, K_2O 0.57, H_2O+ 35.66, H_2O- 3.10, insol 0.52. Total 99.92.

CRYSTALLOGRAPHIC PROPERTIES: Hexagonal, rhombohedral. Minute crystals with the rhombohedron $(10\bar{1}1)$ and the base. $c=1.03$.

PHYSICAL AND OPTICAL PROPERTIES: Color greenish yellow. Pleochroism distinct, ω lemon yellow, ϵ almost colorless. Optically negative, $\omega=1.530$, $\epsilon=1.506$. Sp. Gr. 1.905.

OCCURRENCE: Found as a weathering product of pyrite, associated with halotrichite, pickeringite, gypsum and a fibrous iron magnesium sulphate at Valachov hill, near Skřivan, Bohemia.

W. F. F.

Viterbite

RICARDO LLERAS CODAZZI: Notas mineralogicas y petro-graficas. (Mineralogical and petrographical notes). *Bibliotheca del Museo Nacional, Bogota*, **1925**, p. 26. (*Abstr. Bull. Soc. Fran. Min.*, **50**, 57-58, 1927).

NAME: From the locality, Santa Rosa de *Viterbo*.

CHEMICAL PROPERTIES: A silicophosphate of aluminum. Analysis: SiO_2 21.00, P_2O_5 6.00, Al_2O_3 40.00, Fe_2O_3 2.30, H_2O 30.70. Total 100.00.

PHYSICAL AND OPTICAL PROPERTIES: Isotropic. H=2.5, Sp. Gr. 1.9.

OCCURRENCE: Found as a pulverulent mass at Santa Rosa de Viterbo, state of Boyaca, Colombia.

W. F. F.

Fraiponite

G. CÉSARO: Sur la fraiponite, silicate basique hydrate de zinc et d'aluminum. (Fraiponite, a basic hydrated silicate of zinc and aluminum). *Ann. Soc. Geol. Belgique*, **50**, 106–110, 1927. First described but not named by Césaro: *Ann. Soc. Geol. Belgique*, **10**, 111, 1883.

NAME: In honor of Julien and Charles *Fraipon*.

CHEMICALPROPERTIES: A hydrous silicate of zinc and aluminum. $8ZnO \cdot 2A1_2O_3 \cdot 5SiO_2 \cdot 11H_2O$. Analysis (by Pisani): SiO_2 20.1, Al_2O_3 13. 9, ZnO 47. 0, H_2O 13.2, CaO 2.00, CO_2 3.8. Sum 100.00. Easily and completely soluble in nitric acid. Gelatinizes upon evaporation. Fuses easily to a white enamel.

PHYSICAL AND OPTICAL PROPERTIES: Color yellowish white. Luster silky. Biaxial, negative, with the plane of the optical axes parallel to the fibers. Elongation positive.

OCCURRENCE: Found as crusts of fibers 4–10 mm. thick on smithsonite. Resembles asbestus. Locality unknown but believed to be one of the mines of Vieille-Montagne, Belgium.

W. F. F

Tanatarite

O. A. PETRUSHKEVICH: (On a New Mineral Variety of the Diaspor Group). *Bull. Geol. Min. Circle, Ekaterinoslav Mining Institute*, No. 2, pp. 17–20, 1926. (Abstr. *Min. Abstr.*, **3**, 237, 1927).

NAME: In honor of Prof. Josef *Tanatar* of the Ekaterinoslav Mining Institute.

CHEMICAL PROPERTIES: A hydrous oxide of aluminum. Analysis: Al_2O_3 74.25, Fe_2O_3 1.44, MgO 1.72, CaO 3.09, SiO_2 3.72, H_2O 15.02. Sum 99.24.

CRYSTALLOGRAPHIC PROPERTIES: Monoclinic.

PHYSICAL AND OPTICAL PROPERTIES: Biaxial, $2V=51°–60°$; $\alpha=1.70$, $\gamma=1.75$. Sections cut normal to the acute bisectrix give extinction angles up to 30° with the trace of the perfect cleavage. Elongation negative. Sp. Gr. 3.385. H=6½.

OCCURRENCE: Found in crevices in chromite occurring in talc and chlorite schists with chrome tourmaline, topaz (?), periclase, fuchsite, and uvarovite.

DISCUSSION: (Apparently the same as kayserite. Cf. *Am. Mineral.*, **8**, 187, 1923).

W.F.F.

ADDITIONAL DATA

Schafarzikite

L. TOKODY: Contributions to the knowledge of the crystallographical and physical properties of schafarzikite. *Zeit. Kryst.*, **62**, 123–126, 1925. (See *Amer. Mineral.*, **6**, 173, 1921).

CRYSTALLOGRAPHIC PROPERTIES: New forms *m* (110) and *p* (111). A basal cleavage is also noted.

PHYSICAL AND OPTICAL PROPERTIES: Color red to reddish brown. Luster metallic, opaque. Streak brown. Thin plates yellow in color, thicker ones yellow to reddish brown and transparent. Pleochroism ω=straw yellow, ϵ brownish yellow. *n* higher than 1.740. Birefringence weak. H=3.5. Sp. Gr. about 4.3.

W. F. F.

Arakawite

T. ITO: Die Kristallisations verhältnisse von Arakawite (The crystal relations of Arakawite). *Zeit. Kryst.*, **65**, 305–308 (1927).

New measurements on arakawite from Japan (cf. *Am. Mineral*, **8**, 37, 1923) give $a:b:c=0.734:1:0.956$, $\beta=76°10'$, demonstrating its isomorphism with vezelyite. [The mineral kipushite (cf. *Am. Mineral.*, **12**, 326, 1927) is identical with arakawite, the second orientation of Buttgenbach with $a:b:c=0.954:1:739$, $\beta=77°6\frac{1}{2}'$ having the dome *e* of arakawite the prism *m* of kipushite].

W. F. F.

Chevkinite

A. BOLDEREFF: Étude cristallographique de la tscheffkinite de l'Oural. (Crystallographic Study of Chevkinite from the Urals). *Bull. Soc. Fr. Min.*, **48**, 120-127 (1925).

CRYSTALLOGRAPHIC PROPERTIES: Monoclinic with the forms (100), (010), (001), (111), (101), (201), (110), (112). W. F. F.

Potarite

L. J. SPENCER: Potarite, a new mineral discovered by the late Sir John Harrison in British Guiana. *Mineral. Mag.*, **21**, No. 120, pp. 397–406, 1928. (Cf. *Am. Mineral.*, **10**, 333, 1925).

CHEMICAL PROPERTIES: A compound of palladium and mercury, Pd Hg. The variations in the composition given in the previous papers are suggested to be due to the fact that some of the nuggets had been previously heated. Soluble in nitric acid to a brown solution.

CRYSTALLOGRAPHIC PROPERTIES: Isometric, in octahedrons.

PHYSICAL PROPERTIES: Sp. Gr. 15.0–16.1. H = 3½ Brittle.

W. F. F.

REDEFINITION OF SPECIES

Nontronite

ESPER S. LARSEN AND GEORGE STEIGER: Dehydration and Optical Studies of Alunogen, Nontronite and Griffithite. *Amer. Jour. Sci.*, **15**, 4–15, 1928.

CHEMICAL PROPERTIES: $Fe_2O_3 \cdot 3SiO_2 \cdot nH_2O$. Variable, especially with regard to its water content. A new analysis of material from Woody, California (by Steiger) gives: SiO_2 47.51, TiO_2 none, Al_2O_3 0.37, Fe_2O_3 35.17, FeO none, CaO 2. 50, MgO 1.40, K_2O 0.20, Na_2O 0.10, $H_2O(-)$7.16, $H_2O(+)$5.90, SrO none. Sum 100.16.

OPTICAL PROPERTIES: On material of above analysis: Color dark olive green to dark olive buff. Pleochroism strong, X = pale yellow, Y = olive green, Z = yellow green. Biaxial negative with small axial angle and rather strong dispersion. $\alpha = 1.56 \pm 0.01$, $\beta = 1.585 \pm 0.01$, $\gamma = 1.585 \pm 0.01$. Indices of refraction variable for β, 1.585 for 13.06 per cent. H_2O to 1.69 for 1.80 per cent H_2O.

DISCUSSION: Nontronite is the iron analogue of beidellite (cf. *Am. Mineral.*, **11**, 167, 1926) with which it forms an isomorphous series. W. F. F.