ABSTRACTS

ULLMANNITE FROM ST. ANDREASBERG, HARZ. K. MIELEITNER. *Z. Krist.*, **56**, 105-7, (1921). Ullmannite occurs with calcite, quartz, natrolite, proustite, galenite, and breithauptite in crevices in a shale. Crystals of ullmannite (NiSSb) show the cube, pyritohedron, tetrahedron, and tristetrahedron, which establishes the symmetry (previously in doubt) as tetartohedral. This is an interesting confirmation of the modern theory that the presence of two different negative elements in the pyrite structure should lead to tetartohedrism.

E. T. W.

IRIDOSMINE CRYSTALS FROM RUBY CREEK, ATLIN DISTRICT, B. C. T. L. GLEDHILL. *Univ. Toronto Studies, Geol. Ser.* **12**, 40-42, (1921). Iridosmine is found in a black sand, and comes from ultra-basic rocks at the head of Ruby Creek. The forms observed were: c, x, a, and new $t(11\bar{2}3)$, $u(11\bar{2}9)$; $a:c = 1 : 1.3823$. E. F. H.

CALCITE FROM SHANGOINAH ISLAND, NEAR THUNDER CAPE, LAKE SUPERIOR. A. L. PARSONS. *Univ. Toronto Studies* **12**, 51-53, (1921). The crystals measured were thought to have been formed at the temp. of Lake Superior water in summer, from a solution of $CaCO_3$ containing CO_2. The following forms were present; (Goldschmidt symbols) $\bar{}/2$, 1, 4, 41, 7/4. 1/4, $\bar{8}\bar{2}$,$\bar{8}\bar{4}$,$\infty 0$,∞, (new) 48.8/9, 21.10/9. E. F. H.

A NEW AGATE OCCURRENCE IN THE VOSGES. JULIUS RENCK. *Centr. Mineral.*, 257-9, (**1921**).

Agates occur near the village of Raon-sur-Plaine. E. F. H.

A NEW ANDALUSITE OCCURRENCE IN THE FERWALL GROUP (VORARLBERG), AND ITS REGIONAL GEOLOGICAL SIGNIFICANCE. H. P. CORNELIUS. *Centr. Mineral.*, 290-3, (**1921**).

Peach blossom red andalusite is associated with quartz veins and lenses in schist at the Reutlinger furnace. It seems to be of hydrothermal origin.

E. F. H.

SOME MINERALS FROM FUCHSBAU, FICHTELGEBIRGE. K. MIELEITNER. *Z. Krist.*, **56**, 90-4, (1921).

The first formed minerals in the granite quarry are orthoclase, quartz, albite and zinnwaldite. Upon these are topaz, tourmaline, and apatite. As coatings on all these minerals occur gilbertite, pyrolusite, and limonite. Heated waters circulating thru the fissures have deposited autunite and torbernite and have altered the granite to a red clay which has the composition of kaolinite, and apparently owes its color to a Mn''' compound. E. T. W.

SOME MINERALS FROM GREGNITZ, FICHTELGEBIRGE. K. MIELEITNER. *Z. Krist.*, **56**, 94-6, (1921).

In addition to minerals such as described in the previous abstract, this locality has yielded good crystals of phenacite apparently formed by alteration of primary beryl. E. T. W.

THE ECLOGITES OF NORWAY. PENTTI ESKOLA. *Videnskapsselskapets Skrifter*, **1**, No. 8, 118 pp., (1921).

This petrologic paper contains much of interest to mineralogists. Clerici's solution is of great value in separating rock constituents for study. It is made by dissolving pure thallium carbonate in a mixture of 85% formic acid and an equivalent amount of malonic acid in a concentrated aqueous solution, and then evaporating until a piece of almandite with sp. gr. 4.0 floats readily. The main part of the paper is concerned with descriptions of the occurrences and origins of Norwegian eclogites, the igneous origin of many of them being conclusively demonstrated. The typical minerals of eclogite, whether of igneous or metamorphic origin, are jadeite-diopside, enstatite, almandite-pyrope, and cyanite. The eclogites have evidently formed under considerable pressure, and on release of pressure some of the minerals have often undergone secondary changes. The jadeite-bearing diopside has broken down into an intimate mixture of sodium-free diopside and plagioclase. There is in general a tendency for the minerals to change toward those characteristic of the amphibolite facies, or even to go farther and approach the minerals of the green-schist facies. This paper represents a very important contribution toward the understanding of the reasons for variation in mineralogy of rocks of given chemical compositions, or as the author terms it, "facies-petrology." E. T. W.

CONTRIBUTIONS TO THE MINERALOGY OF THE YXSJÖ MINES. N. ZENZÉN. *Geol. För. Förh.*, **44**, 539-43, (1921); thru *Chem. Abstr.* **16**, 2650.

Massive calcite contained plagioclase crystals. White fluorite, a nearly pure siderite, sp. gr. 3.79, and hisingerite are noted. E. F. H.

PHENACITE FROM THE GRANITE AT PILBERSDORF AT REICHENBACH IN THE OBERLAUSITZ. M. HENGLEIN. *Centr. Min.*, **1921**, 193-195.

Phenacite composed of the two rhombohedrons (1011), (1012), is found in druses in the granite, attached to orthoclase, quartz and penninite but beneath or included in chlorite. OTTO VON SCHLICHTEN.

THE PRESENCE OF RADIUM AT KATANGA. A. SCHOEP. *Bull. soc. chim. Belgique*, **30**, 219-222, (1921).

In the Luiswishi mine a number of radioactive minerals occur. Chrysocolla shows this property owing to intimate admixture of uranium compounds. Gummite occurs as an alteration product of uraninite; it is recognizable by its colloidal properties, and is chemically heterogeneous. A yellow crystalline mineral coating, the gummite, seems to be "uranotile"; analysis gave: UO_3 69.32, SiO_2 14.23, CaO 2.86, P_2O_5 1.10, H_2O 12.28, sum 99.79%. Its mean refractive index is 1.671, and it appears to be in rhombic crystals. These and the other uranium minerals present should be worth investigating for their radium content. E. T. W.

LINNEITE AT KATANGA. A. SCHOEP. *Bull. soc. chim. Belgique*, **30**, 222-223, (1921).

Specimens received from the Luushia mine, between Kambove and Elizabethville, show octahedral crystals indicated by qualitative tests to be linneite.

E. T. W.

ECONOMIC MINERALS OF MADAGASCAR. GEORGE F. KUNZ. *Eng. Mining J.* **111**, 14-6, (1921).

A résumé of the studies of Lacroix and Duparc on the commercially important minerals of Madagascar. Among the numerous minerals found are the following: ampangabeite, autunite, beryl (including gem varieties), betafite, blomstrandite, corundum (no gem varieties), euxenite, fergusonite, garnet (spessartite), graphite, rutile, samarskite, and tourmaline. Graphite, corundum, and ores rich in radium and thorium occur to a great extent in the lateritic clay of the region.

A. S. WILKERSON.

LAUE PHOTOGRAPHS AND STRUCTURE OF ZINCITE. G. AMINOFF. *Z. Krist.*, **56**, 495-505, (1921).

Basal cleavages of zincite from Franklin Furnace were studied by the Laue method. The elementary solid contained two molecules. The intensity distribution in the diagram corresponds to two possible structures, one of which can be selected as agreeing with the Braggs' measurement by another method. The coordinate p of the O atoms is about 5/8.

PAUL BOONE.

THE CRYSTAL STRUCTURE OF ALABANDITE (MnS). R. W. G. WYCKOFF. *Am. J. Sci.*, **2**, 239-49, (1921).

By a combination of a reflection spectrum from a known crystal face with a powder reflection it is shown that the arrangement of the atoms in alabandite is either that of the "NaCl grouping" or one approaching very closely to it. The mineral is not isomorphous with sphalerite.

E. F. H.

HABIT AND MANNER OF ATTACHMENT OF ICE CRYSTALS. GEORG KALB. *Centr. Min.*, **1921**, 129-134.

Temperature controls the habit of ice crystals. Near 0°C. platy crystals prevail. Lower temperatures favor production of the prismatic habit. The plates rest on an edge, the prisms on one end of the principal axis.

OTTO VON SCHLICHTEN.

THE STRUCTURE OF ALUM. J. J. P. VALENTON. *Z. Krist.*, **56**, 434, (1921).

The growth velocity of different faces on a xl. is connected with the atomic or molecular structure in the direction of each. Measurements on alum show the velocities on (111), (110), and 100 to be as 1:3.5:7. The (110) planes contain complete molecules of $KAl(SO_4)_2$ and grow fairly slowly. The (100) planes show alternating layers of metal and radical. In the (111) faces the (SO_4) radicals are distorted, causing slow growth.

E. T. W.

A PROOF OF THE TYPES OF SYMMETRY POSSIBLE IN CRYSTAL AXES. P. NIGGLI. *Z. Krist.*, **56**, 531-3, (1921).

A proof that only binary, trigonal, tetragonal, or hexagonal axes of symmetry are possible in crystals.

E. F. H.

ON MONTICELLITE CRYSTALS FROM A STEEL-WORKS MIXER SLAG. A. F. HALLIMOND. *Mineralog. Mag.*, **19**, 193-195 (1921).

The crystals are from 1/2 to 1 cm in length and from 1 to 2 mm in thickness. Three forms were noted, (010), (110), and (021). Orth., $a:b:c = 0.4382 : 1 : 0.5779$. They are transparent, very pale brown in color, with little or no pleochroism.

Sp. gr. 3.20. $\alpha=1.663$, $\beta=1.674$, $\gamma=1.680$. 2 V=74 1/2°. The chem. analysis reveals 16.5 mol. per cent of olivine present in solid solution, the influence of which is shown in the density, mean refractive index, increased values of *a:b*, *c:b*, and in the larger birefringence. W. F. H.

THE ALBITE FROM RISCHUNA IN MORPHOLOGIC RELATIONSHIP. BERTA KREBS. *Z. Krist.*, **56**, 386-407, (1921).

Crystals from the Alp Rischuna (Switzerland) had only 0.09% CaO, corresponding to 3.4 mol. % anorthite; sp. gr. = 2.623 ± 0.001; ext. angles on $p=3.5°$, on M 19.3°. From elaborate crystallographic measurements, and using the heaping-up method for arriving at the probable angles: $a:b:c=0.6352:1:0.5584$, $\alpha=94°14.6'$, $\beta=116°35.7'$, $\gamma=87°46.0'$. These data must be for essentially pure albite.

E. T. W.

THE CRYSTALLOGRAPHIC AND OPTICAL CONSTANTS OF ANORTHITE FROM VESUVIUS. J. KRATZERT. *Z. Krist.*, **56**, 465-88, (1921).

K. records values different from the accepted ones of Marignac-Descloizeux: $a:b:c=0.63523:1:0.55048$, $\alpha=93°9.5'$, $\beta=115°52.6'$, $\gamma=91°16.4'$. The aver. cleavage angle PM is 85°53.3 ± 2.1′. The indices are: α 1.575, β 1.583, γ 1.588. 2V = 102°28′. Two analyses averaged: SiO_2 43.34, Al_2O_3 35.31, Fe_2O_3 0.65, CaO 19.93, MgO 0.17, Na_2O 0.39, K_2O 0.36, H_2O 0.21, sum 100.36%. Sp. gr. 2.760 ± 0.003. An = 97%.

PAUL BOONE.

SOME RECENT ACCESSIONS TO THE MINERAL COLLECTIONS OF THE U. S. NATIONAL MUSEUM. WILLIAM F. FOSHAG. *Proc. U. S. Nat. Museum*, **58**, 303-5, (1921).

Among the minerals mentioned are:—cinnabar xls. and arsenolite, Hunan, China; large scheelite xls., Ryudo, Korea; large clear danburite xl., Obira, Japan; wiluite xls. and a tristetrahedron of achtaragdite, eastern Siberia; zincite xls., friedelite, and xlld. leucophoenicite, Franklin, N. J. E. F. H.

RECENT ACCESSIONS IN THE DIVISION OF APPLIED GEOLOGY. EARL V. SHANNON. *Proc. U. S. Nat. Museum*, **58**, 323-6, (1921).

Unusual specimens of ores of W, Mo, V, Cr, and Ti; and of salt minerals, are described. E. F. H.

BIOGRAPHICAL NOTICES OF MINERALOGISTS RECENTLY DECEASED; WITH AN INDEX TO THOSE PREVIOUSLY PUBLISHED IN THIS MAGAZINE. L. J. SPENCER. *Mineral. Mag.*, **19**, 240-262, (1921).

Short biographical sketches of the lives of 44 recently deceased mineralogists. This is followed by a general index containing 275 entries. W. F. H.

THE MINERAL ALLACTITE. G. AMINOFF. *Geol. För. Förh.*, **43**, 24-52, (1921).

A detailed study of numerous crystals from Långban shows that the forms have the simplest indices when the crystals are so oriented that $a:b:c=0.8206:1:0.4508$, $\beta=95°37'$. Four new forms are noted: (120), (301), $(\bar{2}11)$, and (011). For Na, $\alpha=1.75\pm$, $\beta=1.779$, $\gamma=1.78\pm$. Three types of paragenesis can be recognized.

E. T. W.