# Reviews and Notices.

*Zeitschrift für Krystallographie und Mineralogie. Herausgegeben Von P. Groth. Band I, Heft* 3. *(Leipzig : Engelmann).*

FOUR memoirs, each stamped with the mark of original research, form the staple of the third number of Prof. Groth's Magazine. Add to these four papers, ten minor communications and five admirably-executed plates, and it will then be seen that the young journal is exhibiting a vitality of which its editor may be fairly proud.

Among the Volcanic regions remarkable for their mineral wealth, the ancient district of Latium, including the Alban Hills, unquestionably occupies a prominent place. Although much has been written on the mineralogy of this region, and still more on its geology, it has been reserved for Prof. Strüver to prepare a systematic monograph on the minerals of Latium. For this work he is singularly fitted, partly by his great local knowledge and partly by the fact that the rich collections of Spada and Riccioli are in the Mineralogical Museum of the University of Rome, to which he is attached. The first part of the monograph, contributed to the present number of the *Zeitschrift*, deals with his Class I. (Elements, Sulphides, and Oxides), and part of Class II. (Anhydrous silicates). Eight minerals are described under the first group, namely :—sulphur, copper-pyrites, magnetic pyrites, iron-pyrites, iron-glance, magnetite, pleonaste and quartz, including opal. Most of the descriptions are short, but the magnetite and pleonaste are fully described. The anhydrous sillicates noticed in the present paper, include hauyne, lapis lazuli, sodalite, nepheline, anorthite, sanidine, titan-

ite and idocrase. The crystallographic characters of most of these species are discussed in detail, and a large number of original measurements are cited. Information as to localities is also very fully given.

Since Prof. Vom Rath first threw doubt on the isometric characters of *Leucite*, there has been no lack of papers on this interesting species. Herr Baumhauer who is well known for his studies on the behaviour of crystals when eroded by etching media, has applied his favourite method to the leucite question. His results tend to confirm Vom Rath's conclusions, and lend no support to the views of Hirschwald. Baumhauer sees no reason for referring the embedded crystals to the regular system, as has been suggested, but regards both the embedded and free crystals as quadratic. He finds that the faces of the tetragonal pyramid are less easily acted upon than the faces of the ditetragonal.

Most mineralogists know that while *Brookite* is generally referred to the orthorhombic system, a strong plea for its removal to the clinorhombic group has been put forward by Dr. Schrauf. Some time ago he described three types of crystals, each with its own axial relations, and at the same time pointed out the isomorphism of brookite and wolframite. Whilst crystallographic measurements suggest clinorhombic characters, it is admitted that many crystals have a decided orthorhombic habit. The anomalous optical characters have been lately studied by Dr. Schrauf, with the view of reconciling them with his measurements, and a paper on this subject, including some general deductions therefrom, is contributed to the *Zeitschrift*. The optical phenomena of Brookite present an asymmetry much more suggestive of clinorhombic than of orthorhombic relations. That the positive bisectrix nearly coincides with the normal to the orthopinacoid is not accepted as proof against the species being monoclinic, or in favour of its being prismatic. To show that the mineral is truly orthorhombic, it would be necessary to show that two of the axes of elasticity coincide with the two crystallographic axes, X, Z, which make the angle $\eta=90°$.

From the difficulty of analysing a certain mineral from the Kaiserstuhl, Dr. Knop has bestowed upon it the name of *Dysanalyte*. It is a mineral occurring in little iron-black cubes embedded in granular limestone at Vogtsburg, and has hitherto

been mistaken for perowskite. Having collected in course of time a quantity of limestone, and dissolved it in order to set free the associated mineral called Koppite, a fair store of the questionable little crystals was obtained. On analysis they were found to be not perowskite but a new species, consisting of either a combination, or an isomorphous mixture, of one molecule of a niobate ($R Nb_2 O_6$) with six molecules of a titanate ($R Ti O_3$). R is here chiefly Ca, Fe, Ce, and Na. The specific gravity is 4·13. Dysanalyte appears to be a mineral of the pyrochlore group, and is closely allied to koppite. But if the presence of a fluoride is considered to be essential to the pyrochlores, then both dysanalyte and koppite must be removed from that association, and will find a place near perowskite. Indeed only a trace of fluorine was detected in the new species.

Among the correspondence and extracts in this number of the Journal, we find a note by M. Bertrand, on *Topaz* occurring with phenakite at Framont, in Alsace, the topaz resembling the crystals from Ehrenfriedersdorf, but shewing the two new prisms (5. 11. 0) and (7. 13. 0); an illustrated description of some crystals of Brazilian *Amethyst*, especially notable as being made up of four elements *(Vierlinge)*; a note on crystals of *Strontianite* from Hamm, in Westphalia, by Dr. Laspeyres; and an abstract of M. Mallard's elaborate memoir, on the anomalous optical characters of certain crystallised substances, the original of which will be found in the *Annales des Mines*. For the rest, the papers in this number of Prof. Groth's Journal deal with the crystallography of artificial products, and, therefore, lie outside our scope.

F. W. R.

---

*Zeitschrift für Krystallographie, &c. Viertes Heft.*

THIS number fully keeps up the reputation gained for the first three numbers. It contains an article by *J. A. Krenner*, on the Anglesite of Hungary. Also a number of Mineralogical notices by *G. Seeligmann;* a comparison of the orthoclase macles (tin stone

pseudomorphs) from the Consolidated Mines, Cornwall, with the well-known Carlsbad macles; notes on the Saxon and Bohemian Topaz, by *H. Laspeyres*; on the Fluor of Striegau, Körngshayn, and Kongsberg, by A. von Lasaulx; and on Thuringite from Zirmsee in Carinthia, by V. von Zepharovitch. Among the mineralogical notices and correspondence there is a referance to SONOMAITE, a new mineral from California, having the following composition:—

| | | |
|---|---|---|
| $SO_3$. | 38·78 | 38·30 |
| $Al_2O_3$ | 7·66 | 8·36 |
| FeO | 2·01 | 1·56 |
| MgO | 7·14 | 7·51 |
| $H_2O$ | 44·41 | 44·27 |
| | 100·00 | 100·00 |

There are also references to two new minerals from Vesuvius, which have been named by Arcangelo Sacchi, CUSPIDIN and NEOCHRYSOLITE. The number contains 5 plates, illustrating the text.

J. H. C.

---

DAVYUM.—*Chemical News, July 9th*, 1877.—This is a new metal discovered in platinum residues by M. Sergius Kern of St. Petersberg. Its sp. gr at 25°C is 9·385, it is hard, to some extent ductile, and extremely infusible. It may be supposed to occupy the place between molybdenum and ruthenium in the periodical system of elements proposed by Prof. D. Mendeleeff.

J. H. C.

---

FRANKLANDITE AND ULEXITE.—*Chemical News, May 25th*, 1877. —Professor J. Emerson Reynolds proposes for these minerals the following formulæ.

| | |
|---|---|
| Franklandite | $2Na_2O,2CaO,\ 6B_2O_3,15H_2O$ |
| Ulexite | $Na_2O,2CaO,\ 6B_2O_3,18H_2O$ |

J. H. C.

COLUMBITE.—*Am. Journ. Science, May*, 1877.—The following analyses are given by J. Lawrence Smith. *a* is massive from north Carolina. *b* crystals from the same locality. *c* is from Colorado.

| | *a.* | *b.* | *c.* |
|---|---|---|---|
| Columbic acid (with a little titanic acid) | 80·82 | 80·06 | 79·61 |
| Tungstic and Stannic acids | 1·02 | 1·21 | —— |
| Protoxide of iron | 8·73 | 14·14 | 14·14 |
| Protoxide of manganese | 8·60 | 5·21 | 4·61 |
| Oxide of Copper | trace | —— | |
| Loss by heat | —— | —— | ·50 |
| | 99·17 | 100·62 | 98·86 |
| Sp. Gr. | 5·485 | 5·562 | 5·15 |

J. H. C.

---

SAMARSKITE.—*Ibid., May and July*, 1877.—This mineral was from North Carolina. The analyses were made (*a*) by M. J. L. Smith, (*b*) by Miss Ellen H. Swallow, (*c*) by Prof. Allen.

| | *a.* | *b.* | *c.* |
|---|---|---|---|
| *Columbic acid* | *55·13* | 54·96 | *37·20* |
| Tantalic acid | —— | | 18·60 |
| Stannic acid | 0·31 | 0.16 | 0·08 |
| Tungstic acid | | —— | |
| Yttria | 14·49 | 12·84 | 14·45 |
| Oxide of Cerium (with La and Di) | 4·24 | 5·17 | 4·25 |
| Uranium Oxide | 10·96 | 9·91 | 12·46 |
| Protoxide of Manganese | 1·53 | 0·91 | 0·75 |
| Protoxide of Iron | 11·74 | 14·02 | 10·90 |
| Magnesia | trace | 0·52 | —— |
| Lime | —— | —— | 0·55 |
| Insol. residue from CeO | —— | 1·25 | —— |
| Loss on ignition | ·72 | 0·52 | 1·12 |
| | 99·12 | 100·40 | 100·30 |
| Sp. Gr. | 5·72 | | |

J. H. C.

EUXENITE.—*Ibid.*, *May*, 1877.—This occurs with the Samarskite. The following analysis by J. Lawrence Smith is given.

| | |
|---|---|
| Columbic acid .. .. .. .. | 54·12 |
| Tungstic and Stannic acids .. .. | ·21 |
| Yttrium and Cerium oxides .. .. | 24·10 |
| Lime .. .. .. .. .. .. | 5·53 |
| Uranium oxide .. .. .. .. | 9·53 |
| Protoxide of Manganese .. .. | ·08 |
| Protoxide of Iron .. .. .. .. | ·31 |
| Water .. .. .. .. .. .. | 5·70 |
| | 99·58 |
| Sp. Gr. .. .. .. | 4.593, 4.620, 4.642 |

J. H. C.

---

HATCHETTOLITE.—*Ibid.*, *May*, 1877.—This new columbite is also found with the Samarskite from North Carolina. Its analysis by Mr. J. Lawrence Smith is as follows.

| | *a.* | *b.* | *c.* |
|---|---|---|---|
| Columbic acid | 66·01 | 67·86 | 67·25 |
| Tungstic and Stannic acids | ·75 | ·60 | ·91 |
| Uranium oxide | 15·20 | 15·63 | 16·01 |
| Lime | 7·72 | 7·09 | 7·11 |
| Yttria and Cerium Oxide | 2·00 | ·86 | ·64 |
| Protoxide of Iron | 2·08 | 2·51 | 2·12 |
| Potash | ·50 | 1·21 | not est. |
| Water (Loss by heat) | 5·16 | 4·42 | 5·02 |
| Lead | trace | | |
| | 99·42 | 100·18 | 99·06 |
| Sp. Gr. | 4·851, 4·785, and 4·794 | | |

It occurs in regular octahedrons, H=5, yellowish-brown with greyish opalescence, ustre resinous, fracture concohidal.

J. H. C.

ROGERSITE.—*Ibid.*—This is another new Columbite, and it also occurs with the Samarskite. Mr. J. L. Smith's partial analyses are as follows.

| | *a.* | *b.* |
|---|---|---|
| Water | 17·41 | 16·34 |
| Columbic acid | 18·10 | 20·21 |
| Yttria, &c. | 60·12 | lost |
| Loss | 4·37 | |
| | 100·00 | |
| Sp. gr. | 3·313 | |

It occurs as a mamillary crust on both Samarskite and Euxenite looking like little pearly beads. Its H is about 3·5. It is the first highly hydrated columbate ever found, and it has evidently resulted from the decomposition of Samarskite or euxenite or both.

J. H. C.

---

AGLAITE.—Mr. Alexis A. Julien sends the following account of the new mineral Aglaite to *The Engineering and Mining Journal*, vol. xxii, p. 217, (New York). The analysis afforded:—

| | Per cent. |
|---|---|
| Water | 3·01 |
| Potash | 8·38 |
| Soda | 2·57 |
| Lithia | ·09 |
| Lime | ·48 |
| Magnesia | ·75 |
| Manganous oxide | ·18 |
| Ferri oxide | 1·66 |
| Alumina | 24·38 |
| Silica | 58·11 |
| | 99·61 |

This yields the empirical formula

$$(H,Na,K)_8\ Al_2\ Si_{12}\ O$$

It thus appears to be a new mineral species, with interesting relations to Pihlite and Cymatolite. Mr Julien proposes the name Aglaite from αγλαος, brilliant, on account of its high lustre.

C. L. N. F.

MELINOPHANE.—M. Emile Bertrand writes to correct the notice on page 141 of the Mineralogical Magazine as follows. "In my note on this subject, I have stated that Melinophane is *tetragonal* and not *rhombic*."

J. H. C.