

A  
SYSTEM  
OF  
MINERALOGY.

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DESCRIPTIVE MINERALOGY,

COMPRISING THE  
MOST RECENT DISCOVERIES.

BY

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*"Hæc studia nobiscum peregrinantur....rusticantur."*

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was first noticed by Dr. Julius Thomsen of Copenhagen, the originator of the cryolite industry, after whom it is here named. It differs strikingly from pachnolite in its pearly basal cleavage and its nearly square prisms; and from cryolite in the horizontal striae of the same and the facility of cleavage. The compact variety, first observed by Dr. Hagemann (to whom the author is indebted for his acquaintance with it), has much of the aspect of chalcadony; it incrusts cryolite or occupies seams or cavities in it, and is covered by the chalky gearksutite; the incrustations are sometimes half an inch or more thick.

169A. HAGEMANNITE. Hagemannite *Shepard*, Am. J. Sci., II. xlii. 246, 1866. Closely resembles in aspect and condition the compact thomsenolite, but passes sometimes into a yellow, opaque, jaspery variety. It incrusts the cryolite, and also constitutes seams  $\frac{1}{4}$  to  $\frac{1}{2}$  in. thick. It sometimes traverses a drusy ferruginous pachnolite. It is ochre-yellow to wax-yellow in color, rarely faint greenish, dull, or with only a faintly glimmering lustre, and looks like an iron flint, or the yellow chloropal of Alar, Bavaria. H.=3-3.5. G.=2.59-2.60. Adheres but feebly to the tongue.

Hagemann obtained in an analysis F 40.30, Al 12.06, Fe 5.96, Mg 2.30, Ca 11.18, Na 8.45, Si 7.79, H 10.44. Decrepitates surprisingly in the flame of a candle.

The analysis corresponds to the atomic ratio for F, Si, (Al, Fe), (Mg, Ca, Na), 4:1:1:2. Taking 2 F for the Si, to make Si F<sup>2</sup>, it leaves only 2 F for the bases. No probable formula can be deduced. Excluding the Si, Mg, Fe, the composition is that of thomsenolite.

### 170. GEARKSUTITE.

Earthy, kaolin-like in aspect.

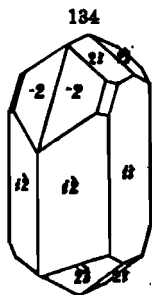
H.=2. Lustre dull. Color white, opaque.

Comp.—Ca<sup>2</sup> F + Al<sup>3</sup> F<sup>3</sup> + 4 H, or essentially like that of arksutite, excepting the water and the presence of but little soda. Analysis: G. Hagemann (private contrib.):

F 41.18    Al 15.52    Ca 19.25    Na 2.46    H 20.22.

Obs.—Occurs with the Greenland cryolite, and is one of the results of its alteration. The author is indebted for his knowledge of the mineral to Dr. Hagemann. The underlying material is compact thomsenolite. At the request of Dr. Hagemann, it is named by the author from *γ*, *earth*, and *arksutite*, alluding to its earthy aspect.

### 171. PROSOPITE. Prosopit *Scheerer*, Pogg., xc. 315, 1853; xcii. 612, ci. 361.



Altenberg.

Monoclinic.  $I \wedge I = 115^\circ 14'$ ;  $i \wedge i = 76^\circ 15'$ ,  $-2 \wedge -2 = 133^\circ 30'$ ,  $2 \wedge 2 = 116^\circ 30'$ ,  $2 \wedge 3 = 120^\circ 56'$ . Only in imbedded crystals.

H.=4-5. G.=2.890-2.898. Lustre weak. Colorless, white, or grayish.

Comp.—Analysis by Scheerer (Pogg., ci. 361, 365):

	Si F <sup>2</sup>	Al	Mn	Mg	Ca	K	H
Altenberg	10.71	42.68	0.31	0.25	22.98	0.15	15.50=92.58.

The loss of 7.42 p. c. is regarded by Scheerer as proving that 5.50 p. c. of the oxygen is replaced by fluorine; the mineral is thence regarded by him as consisting of  $\frac{1}{2}$  Si F<sup>2</sup>, 6 Al, 1 Ca, 5 Ca F, 12 H, or, differently arranged,  $\frac{1}{2}$  Si F<sup>2</sup>, 1 Al F<sup>3</sup>, 5 Al, 2 Ca F, 4 Ca, 12 H.

Fyr., etc.—In the glass tube affords water and fluorid of silicon. Decomposable by sulphuric acid.

Obs.—Occurs at the tin mines of Altenberg, in crystals, part of which are a kind of kaolin, and others, according to observations by G. J. Brush (Am. J. Sci., II. xxv. 411), cleavable violet fluor, and others still fluor partly kaolinitized.

Also found at the Schlackenwald tin mines; but Scheerer infers, without an analysis, that the crystals from this place (Pogg., xcii. 612) are a phosphate with fluorid, and he gives the hypothetical formula (R<sup>2</sup> P, R F) Al F<sup>2</sup> + yH.

The crystals are closely like datolite in form, as shown by the author in the last edition of this work (p. 502). Dea cloizeaux has stated that *optically* they are triclinic.

It is yet doubtful whether unaltered prosopite has been described or seen.

Named from *prosopion*, a mask, in allusion to the deceptive character of the mineral.