

A
SYSTEM
OF
MINERALOGY,
COMPRISING THE
MOST RECENT DISCOVERIES:

INCLUDING

FULL DESCRIPTIONS OF SPECIES AND THEIR LOCALITIES, CHEMICAL ANALYSES
AND FORMULAS, TABLES FOR THE DETERMINATION OF MINERALS,
WITH A TREATISE ON MATHEMATICAL CRYSTALLOGRAPHY
AND THE DRAWING OF FIGURES OF CRYSTALS.

ILLUSTRATED BY NUMEROUS WOOD CUTS.

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"Hæc studia nobiscum peregrinantur, rusticantur."

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1854.

II. OXYDS OF ELEMENTS OF THE ARSENIC GROUP.

I. ARSENIC DIVISION.

1. ARSENOLITE GROUP.—Composition RO^2 . Monometric.

ARSENOLITE,	$As O^2$.	SENARMONTITE,	$Sb O^2$.
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2. VALENTINITE GROUP.—Composition RO^2 . Trimetric.

VALENTINITE,	$Sb O^2$.	‡ BISMUTH OCHRE,	$Bi O^2$.
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3. KERMESITE GROUP.—Composition RO^2 , (S replacing part of O). Monoclinic.

KERMESITE,	$Sb(O, S)^2$.		
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4. CERVANTITE GROUP.—Composition RO^2 or $RO^2 + RO^2$.

CERVANTITE,	$SbO^2 + SbO^2$.		
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5. VOLGERITE GROUP.—Composition $RO^2 + 5H$.
Appendix.—BLENNERITTE, $Pb^2SbO^2 + 4H$; ARMIOLITE.

II. SULPHUR DIVISION.

- SULPHUROUS ACID GROUP.—Composition RO^2 .
 SULPHUROUS ACID, SO^2 .
- SULPHURIC ACID GROUP.—Composition RO^2 .
 SULPHURIC ACID, SO^2 .
- WOLFRAMINE GROUP.—Composition RO^2 . Monometric.

WOLFRAMINE,	$W O^2$.	MOLYBDINE,	$M O^2$.
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I. OXYDS OF ARSENIC, ANTIMONY, ETC.

ARSENOLITE, Arsenous Acid. Arsenite, *Hasid*. White Arsenic. Arsenikblätthe.
 Arsenic oxidé, *H*.

Monometric; f. 11. Usual in minute capillary crystals, stellarly aggregated, or crusts investing other substances. Also botryoidal and stalactitic. ●

$H=1.5$. $G=3.698$, Roget and Dumas. Lustre vitreous or silky. Color white, occasionally with a yellowish or reddish tinge. Streak white. Transparent—opaque. Taste astringent, sweetish.

Composition.— \bar{As} =Oxygen 24.24, arsenic 65.76.

B.B. completely volatilized in white fumes. In the inner flame blackens, and gives off an alliaceous odor. Slightly soluble in hot water.

Found accompanying ores of silver, lead, arsenical iron, cobalt, nickel, etc., at Andreasberg in the Hartz, and formed by the decomposition of other species. Occurs also at Joachimsthal in Bohemia, at Kapnik in Hungary, and in the old mines of Biber in Hanau.

It differs from pharmacolite, which it much resembles, in being soluble.

Haidinger's name Arsenite, being a general name for salts of arsenous acid, we have changed it to Arsenolite.

Native Arsenic is often covered by a blackish crust or powder, which has been considered a suboxyd (As₂); but according to Suckow, it is a mixture of metallic arsenic and Arsenous acid.

ARSENOPHYLLITE. Breithaupt has thus named a mineral of the composition of Arsenolite, occurring under a trimetric form, homœomorphous with Valentinite.

SENARMONTITE, *D.*—*H. de Senarmont*, Ann. Ch. Phys. [8], xxxi, 504.

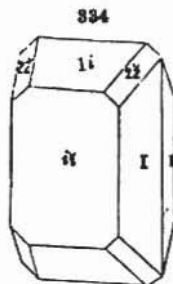
Monometric; in simple octahedrons, (f. 11). Cleavage: octahedral, in traces. Also granular massive.

H.=2—2.5. G.=5.22—5.3. Lustre resinous, inclining to subadamantine. Transparent—translucent. Colorless or grayish. Streak white.

Composition.— Sb (like Valentinite)=Oxygen 15.68, antimony 84.32, with sometimes 1 p. c. of lead and 1 to 3 p. c. of grayish clay. Soluble in muriatic acid. B.B. like Valentinite.

From the province of Constantine, Algeria, at Sensa, and also from Perneck near Malaczka in Hungary. The octahedrons are sometimes more than a centimeter in diameter.

VALENTINITE, *Haid.* White Antimony. Oxyd of Antimony. Antimony Bloom. Weispieseglanzerz, *W. Hof.* Spieglanzweiss. Antimonblüthe, *L.* Antimonoxyd. Exitèle, *Beud.* Antimoine Oxydè, *H.*



Trimetric. $I: I = 136^\circ 58'$; $O: 1\bar{i} = 105^\circ 35'$; $a: b: c = 3.5868: 1: 2.5365$. Observed planes, $I, \bar{i}, \frac{1}{2}\bar{i}, 1\bar{i}, 4\bar{i}, 2\bar{i}$. $1\bar{i}: 1\bar{i}$ (adj.) = $70^\circ 32'$, $\frac{1}{2}\bar{i}: \frac{1}{2}\bar{i} = 129^\circ 32'$, $I: \bar{i} = 111^\circ 31'$. Often in rectangular plates with the lateral edges beveled, and in acicular rhombic prisms. Cleavage: I , highly perfect, easily obtained. Twins: plane of composition, $\bar{i}\bar{i}$, producing an aggregation of thin plates. Also massive; structure lamellar, columnar, and granular.

H.=2.5—3. G.=5.566, crystals from Bräunsdorf. Lustre adamantine, $\bar{i}\bar{i}$ often pearly; shining. Color snow-white, occasionally peach-blossom red, and ash-gray to brownish. Streak white. Translucent—subtransparent. Sectile.

Composition.— SbO_2 =Oxygen 15.68, antimony 84.32. Analysis by Vauquelin, (Haüy's Min. iv, 274):

Oxyd of Antimony 86, Ibid. and iron 3, Silica 8=97.

Fuses in the flame of a candle, and before the blowpipe is entirely volatilized, covering the charcoal with a white coating.

This species results from the alteration of gray antimony, native antimony, and other antimonial ores.

The tabular crystallizations of this species occur in small quantities at Příbram in Bohemia, in veins traversing primitive rocks; and the prismatic, at Bräunsdorf, near Freiberg in Saxony, Malaczka in Hungary, Allemont in Dauphiny, and elsewhere in Europe.

Antimonophyllite contains oxyd of antimony, and occurs in thin inequangular six-sided prisms. Locality unknown.