

A
SYSTEM
OF
MINERALOGY.

DESCRIPTIVE MINERALOGY,

COMPRISING THE
MOST RECENT DISCOVERIES.

BY

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CRUSTACEA, ETC.

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

FIFTH EDITION.

REWRITTEN AND ENLARGED, AND ILLUSTRATED WITH UPWARDS OF SIX HUNDRED WOODCUTS.

NEW YORK:
JOHN WILEY & SON, PUBLISHERS,
NO. 2 CLINTON PLACE.

1868.

C

A mass of sulphid of silver is stated by Trocet to have been found in Sparta, Tennessee; occurs with native silver and copper in northern Michigan. [A silver ore not yet analyzed, occurs, according to Jackson, with gray antimony, at Cornish, N. H.]

Alt.—Native silver, at Joachimsthal. Also a mixture called silver-black (Silberschwärze *Germ.*).

40A. **ARGENTOPYRITE** (Silberkies). This mineral from Joachimsthal, made a species by v. Waltershausen (*Geol. Wiss. Göttingen*, 1866, No. 2), is shown by Tschermak (*Ber. Ak. Wien*, liv. 342) to be a pseudomorph consisting of the minerals argentite, marcasite, pyrrhotite, pyrrargyrite. It occurs in small hexagonal crystals, which were probably pyrrhotite originally. Von Waltershausen obtained in his analysis, Sulphur 34.2, iron 39.3, silver 26.5.

40B. **JALPAITE** Breithaupt (*B. H. Ztg.*, xv. 85, 1858).—Jalpaite is a cupriferous silver-glance from Jalpa, Mexico. It is isometric in cleavage, and malleable like ordinary argentite; color blackish lead-gray; G.=6.877—6.890. Composition according to R. Richter (l. c.) S 14.36, Ag 71.51, Cu 13.12, Fe 0.79, affording the formula $3 \text{ Ag S} + \text{Cu S}$ or $(\frac{3}{2} \text{ Ag} + \frac{1}{2} \text{ Cu}) \text{ S}$.

41. **NAUMANNITE**. Selensilber *G. Rose*, *Pogg.*, xiv. 471, 1828. Selensilberglanz. Séléniture d'argent *Fr.* Seleniuret of Silver. Naumannit *Haid*, *Handb.*, 565, 1845.

Isometric. In cubes. Cleavage: cubic, perfect. Also massive, granular, and in thin plates.

H.=2.5. G.=8.0. Lustre metallic, splendid. Color and streak iron-black.

Comp.—(Ag, Pb) Se. Pure, Ag Se=Selenium 26.8, silver 73.2. Analyses: 1, Rose (l. c.); 2, Rammelsberg (*2d. Suppl.*, 127, and *Min. Ch.*, 34):

1. Tilkerode	Selenium [29.53]	Silver 65.56	Lead 4.91=100 Rose.
2. " "	" 26.52	" 11.67	" 60.15=98.34 Ramm.

In No. 1, Ag : Pb=13 : 1, in 2, 1 : 5.

Fyr., etc.—B.B. on charcoal it melts easily in the outer flame; in the inner, with some intumesce. With soda and borax it yields a bead of silver.

Obs.—Occurs at Tilkerode in the Harz. Named after the crystallographer Naumann.

According to Del Rio, another selenid of silver occurs at Tasco in Mexico, crystallized in hexagonal tables. (*Beud. Tr.*, ii. 535.)

42. **EUCAIRITE**. Eukairit *Berz.*, *Afh.* vi. 42, 1818. Cuivre sélénié argental *H.* Seleniuret of silver and copper. Selenkupfersilber *Germ.*

Massive and granular; also in black metallic films, staining the calcite in which it is contained.

Soft; easily cut by the knife. Lustre metallic. Color between silver-white and lead-gray. Streak shining.

Comp.—Cu Se + Ag Se=(Cu, Ag) Se=Selenium 31.6, copper 25.3, silver 43.1=100. Analyses: 1-3, Berzelius (l. c.); 4-6, Nordenskiöld (*Bull. Soc. Ch.*, II. vii. 411):

1. Skrikerum	Selenium 28.54	Copper 25.30	Silver 42.73=96.57.
2. " "	" 26.00	" 23.05	" 42.73, gangue 8.90=96.88.
3. " "	" 28.63	" 25.39	" 42.86=96.88.
4. " "	" 32.01	" 23.83	" 44.21, thallium π . =100.41 Nord.
5. " "	" [31.97]	" 25.30	" 42.73, " =100 Nord.
6. " "	" [32.22]	" 24.86	" 42.57=100 Nord.

Fyr., etc.—B.B. gives copious fumes of selenium, and on charcoal fuses readily to a gray metallic globule, leaving a bead of selenid of silver. With borax a copper reaction. Dissolves in boiling nitric acid.

Obs.—Occurs in small quantities in the Skrikerum copper mine in Smoaland, Sweden, in a kind of serpentine rock, imbedded in calcite; in Chili at Aguas Blancas, near Copiapo (this variety affording Domeyko (*Min.*, 206) Se 32.2, Cu 28.0, Ag. 39.8), and at the mines of Flamenco, a few leagues north of Trespuntas, in the desert of Atacama. Also a similar ore (*Ann. d. M.*, VI. v. 458, and *C. R.*, lviii. 556) on the east side of the Andes of Chili, in the province of San Juan, where it occurs in a narrow vein (10-12 mm. broad), and has a lead-gray color, tarnishes easily, and is partly granular, and partly very imperfectly lamellar; at the Cacheuta mine, in the province of Mendoza, with other selenids.