Chemical analysis of copper blende

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nied by quartz, which appears to be a more ancient formation, and tinstone, which is more recent. It was long taken for brown spar (dolomite), for it is red or reddish-white in crystals, and presents in its combinations P, x, T, and L, so that the last three forms, with nearly equally extended surfaces, resemble a rhombohedron.

Freshly broken, the crystals are semi-transparent, cleavage rectangular, in the direction of the faces P and M; hardness $7\frac{3}{4}$ (of Breithaupt's scale); specific gravity 2.441 to 2.445.

Decomposed by hydrofluosilicic acid, M. Kröner obtained as its chemical composition,—

Silica	66.43
Alumina	17.03
Oxide of iron	0.49
Potash	13.96
Soda	0.91
Lime	1.03
Magnesia and manganese. .	traces

Poggendorff's *Annalen*.

CHEMICAL ANALYSIS OF COPPER BLENDE. BY C. F. PLATTNER.

Breithaupt's copper blende has recently been said to be identical with tennantite. The former however is distinguished by its red streak and lower specific gravity. In tennantite from Cornwall, Kudernatsch found—

Sulphur	27.76
Arsenic	19.10
Copper	48.94
Iron	3.57
Silver	trace
Quartz	0.08
	<u>99.45</u>

The chemical formula for which is—

or more simply, according to M. Frankenheim,

Copper blende from the Prophet Jonas Mine, Freiberg, I found to contain—

Sulphur	28.111	201.16 = 0.139	= 139
Arsenic	18.875	470.04 = 0.040	= 40
Copper	41.070	395.69 = 0.104	= 104
Zinc	8.894	403.23 = 0.022	} = 29
Iron	2.219	339.21 = 0.007	
Lead	0.341		
Antimony and silver. .	traces		
	<u>99.510</u>		

If we consider, with M. Frankenheim, Cu_2S to be isomorphous with ZnS and FeS , the following simple formula results:—

Copper blende essentially differs from tennantite in having a portion of Cu_2S replaced by ZnS .—Poggendorff's *Annalen*.

LOXOCLASE (*FELSITES LOXOCLASIUS*), A NEW MEMBER OF THE FELSITE GENUS. BY A. BREITHAUP.

Amongst a number of North American minerals, for which I have to thank Mr. Shepard, were several of the genus Felsite, and one in particular which at first sight I took for pegmatolith, but which turns out to be a new and remarkable species. This mineral in many respects resembles oligoclase: I have therefore, in the following description, pointed out those peculiarities which render it distinct. Lustre, between vitreous and greasy; pearly on the most perfect cleavage-surface.

Orthoclastic.—Primary form, oblique rhombic prism, $+P\infty(P) = 63^\circ 38'$ towards the chief axis; $-P\infty(x) = 65^\circ 37'$ towards the chief axis; $P:y = 3x = 99^\circ 45'$; $P:T = 112^\circ 30'$; $P:l = 112^\circ 50'$; $P:M = 90^\circ 0'$ (oligoclase $P:M = 86^\circ 45'$); $M:T = 120^\circ 15'$; $M:l = 119^\circ 25'$; $T:l = 120^\circ 20'$. Cleavage, perfect hemidomatic; very distinct in the direction of the short diagonal; indistinct approaching distinctness in the direction of the long diagonal; hemiprismatic, in fragments. Fracture, uneven to conchoidal and hackly. Hardness = $7\frac{1}{2}$ to $7\frac{3}{4}$ (of Breithaupt's scale) (oligoclase $7\frac{3}{4}$ to $8\frac{1}{4}$). Specific gravity = 2.609 to 2.620 (oligoclase 2.644 to 2.662). Colour, yellowish-gray, yellowish-white, pea yellow, bluish-gray. Translucent in thin laminae to transparent. The oblique cleavage in the direction of the long diagonal is characteristic of loxoclase, although not always very distinct, hence its name. Its specific gravity is also higher than any other of the orthoclastic felsites. It appears subject to decay by exposure to the atmosphere.

Two analyses performed by Prof. Plattner; the one by means of hydrofluoric acid (*a*), the other by carbonate of soda (*b*); the mean of the two (*c*) showed it to possess the following composition:—

	<i>a.</i>	<i>b.</i>	<i>c.</i>
Silica		63.50	63.50
Alumina	20.48	20.10	20.29
Oxide of iron	0.65	0.70	0.67
Potash	3.03		3.03
Soda	8.76		8.76
Lime	3.40	3.04	3.22
Magnesia	trace	trace	
Water and fluoride of silicon..		1.23	1.23

for which the general formula is $\text{RO}, \text{SO}_3 + \text{R}_2\text{O}_3, (\text{SO}_3)^2$, as also for oligoclase. Loxoclase affords therefore a remarkable example of