Loxoclase (Felsites loxoclasius), a new member of the felsite genus

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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

dimorphism, for oligoclase is plagioclastic, and yet both must be classed under the same genus. Loxoclase fuses before the blowpipe with difficulty (fusibility between adular and labrador), and shows in the outer flame an intense soda reaction. (Oligoclase melts pretty easily.) Heated in a small glass bulb it gives out a little water and fluoride of silicon, and is very imperfectly decomposed by hot muriatic acid. Loxoclase occurs with pyroxen, graphite, and calcareous spar, upon the two former covered by the latter, at Hammond, in the State of New York.—Poggendorff's *Annalen*.

METEOROLOGICAL OBSERVATIONS FOR JUNE 1846.

Chiswick.—June 1, 2. Slight haze : cloudless. 3. Slight haze : very dry air : clear and fine. 4—6. Hot and dry. 7. Sultry. 8, 9. Cloudy and fine. 10. Overcast. 11, 12. Very fine. 13, 14. Hot and dry. 15. Cloudless. 16—18. Hot and dry, with slight haze. 19. Foggy : excessively hot : clear at night. 20. Hot and sultry. 21. Uniformly overcast : fine. 22. Sultry : excessively hot : rain : at night thunder, lightning, and heavy rain. 23, 24. Densely clouded. 25. Fine. 26. Overcast : heavy showers. 27, 28. Cloudy and fine. 29. Fine, with clouds : windy : clear at night. 30. Cloudy and fine : overcast.

Mean temperature of the month 66°·63
Mean temperature of June 1845 62°·14
Average mean temperature of June for the last twenty years 60°·88
Average amount of rain in June 1·88 inch.

Boston.—June 1. Cloudy. 2. Fine : half-past 11 o'clock A.M. thermometer 75° : 2 o'clock P.M. 78°. 3. Fine : 3 o'clock P.M. thermometer 80°. 4. Fine. 5. Cloudy. 6. Fine : quarter-past 2 o'clock P.M. thermometer 82°. 7. Fine. 8. Cloudy : lightning A.M. 9, 10. Cloudy. 11—17. Fine. 18. Fine : quarter-past 11 o'clock A.M. thermometer 80°. 19. Fine. 20. Cloudy. 21. Fine. 22. Cloudy : rain P.M., with thunder and lightning. 23. Rain : rain early A.M. : rain P.M. 24. Fine. 25. Fine : rain and hail, with thunder and lightning P.M. 26—28. Cloudy. 29, 30. Fine.—The past month has been considerably warmer than *any* month of my observations.

Sandwich Manse, Orkney.—June 1—3. Fine. 4. Fine : bright : fine. 5. Fine : bright : cloudy. 6. Damp. 7. Damp : cloudy. 8. Cloudy. 9. Damp : fog : cloudy. 10. Cloudy : rain. 11. Bright : rain. 12, 13. Bright : clear. 14, 15. Bright : cloudy. 16. Bright : clear. 17, 18. Fine. 19. Thunder and hail* : cloudy. 20. Clear : fine. 21. Clear. 22. Cloudy : fog. 23. Rain and thunder : thunder and rain. 24. Drizzle : thunder and drops. 25, 26. Clear. 27. Rain : clear. 28. Bright : cloudy. 29. Bright : drops. 30. Bright : showers.

Applegarth Manse, Dumfries-shire.—June 1—6. Very fine. 7. Very fine : thunder. 8. Fine soft rain. 9, 10. Slight shower. 11. Fair, but cloudy. 12—16. Fair and fine. 17. Fair and fine : warm. 18. Fair and fine : thunder. 19. Slight drizzle : thunder. 20. Dry and withering. 21. Very warm and withering. 22. Very warm : showers : thunder and hail. 23. Very heavy rain. 24, 25. Showers : fair P.M. 26—29. Heavy rains. * 30. Very heavy rain.

Mean temperature of the month 63°·2
Mean temperature of June 1845 56°·5
Mean temperature of June for twenty-three years. 55°·7
Mean rain in June for eighteen years 3 inches.

* The most severe thunder-storm ever remembered : one man was killed, others knocked down, and the lightning struck various places. It was at its height between six or seven o'clock A.M.