

V.—*On two new species recently described by Prof. von Lasaulx.*

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AT the last meeting of the British Association, Dr. A. von Lasaulx, who has recently been appointed Professor of Mineralogy in Breslau in succession to Professor Websky, exhibited two new minerals which he has described in the *Neues Jahrbuch*. A brief notice of these minerals may fitly find a place in the *Mineralogical Magazine*, although the original descriptions are too lengthy to be translated *in extenso*.

Melanophlogite.—This mineral was discovered by Professor von Lasaulx on specimens of sulphur from Girgenti in Sicily. It occurs in the form of small light-brown cubic crystals, associated with calcite and celestine. At first the mineral was taken for halite, and afterwards, when found to be insoluble, for fluorite. The cleavage, however, appears to be hexahedral. No other form than that of the cube is represented, and the cubes are shewn to be truly isotropic. Two cubes often interpenetrate each other; and the small crystals, aggregated together in chains, stretch from point to point of the scalenohedra of calcite. The colour is light brown or white; the lustre vitreous. $H=6.5-7$. In consequence of the small quantity of material, the S.G. could not be determined by ordinary methods. Dr. Bettendorff determined it, however, by suspension in a fluid of equal density, a solution of mercuric nitrate being employed for this purpose.

The quantity of the crystals examined was only 0.008 gram. The material was freed from associated calcite by means of hydrochloric acid, and from sulphur by treatment with carbon disulphide, while the celestine was removed by careful manipulation. In one determination the S.G. was 2.04, in another 2.03; temperature, 17.5°C. After heating, the density was reduced to 1.95. Heated B.B. the colour changes, first to yellowish grey, then to greyish

blue and finally to a deep lustrous blackish blue colour, whence the name. The analysis of melanophlogite is given as follows:—

SiO ₂	=	86.29*
Fe ₂ O ₃ } Al ₂ O ₃ }	=	0.70
SrO	=	2.80
SO ₃	=	7.20
H ₂ O	=	2.86
		90.85

The character of the sulphur combination appears to be doubtful, and it has been suggested that it may not exist as the radical of sulphuric acid, but as one of the thionic series. Arguments have been adduced against the notion that melanophlogite is a pseudomorph.

Mineralogists should carefully examine any specimens of Girgenti sulphur that they may happen to have in their collections, in order to detect, if possible, any minute cubes of the new mineral. With a larger quantity it will be well to re-examine its chemical constitution, which, as given in the foregoing analysis, certainly seems enigmatical. The original description will be found in the *Neues Jahrbuch* for 1876, Heft 3, pp. 250—257; Heft 6, pp. 627—629.

Aerinite.—A specimen in the Breslau Collection, labelled “Vivianite, from Spain,” was examined by Professor von Lasaulx, and found to be destitute of phosphorus. Further research convinced the professor that he was dealing with an unknown mineral, and he has consequently given it a name suggestive of the intense blue colour which it exhibits. (*αἴρινος*). So strong is this colour that sections had to be prepared of extreme thinness, in order to examine them by transmitted light. The mineral is for the most part compact in texture, but in places indistinctly fibrous. From its pleochroism, it is probably crystallizable in either the orthorhombic or one of the oblique systems. Streak, light bluish grey. H=3—4. Mean S.G.=3.0185. Examined spectroscopically it shews decided calcium lines, but only indications of sodium. It is readily attacked by acids, even in the cold, the blue colour being completely discharged. Treated with hot hydrochloric acid, white pulverulent silica is separated: the mineral thus differs from

*Mean of two determinations.

lazulite, which it resembles in colour. It does not become red B.B. like vivianite. The aërinite appears, on microscopic examination, to act as a cement, binding together fragments of quartz, olivine, felspar and augite. Freed, as far as possible, from foreign matter, the blue mineral was found to have the following composition:—

SiO ₂	=	48·528
Al ₂ O ₃	=	7·551
Fe ₂ O ₃	}	= 32·785
FeO		
Mn ₂ O ₃	=	1·167
CaO	=	3·586
MgO	=	0·900
H ₂ O	=	6·158
		100·675

By digestion for half an hour in hot hydrochloric acid a variable proportion of soluble matter was extracted, extending from 18·278 p.c., to 32·45 p.c. The soluble matter obtained from the experiment which yielded 18·278 p.c. was examined with the following results:

SiO ₂	=	11·853
Al ₂ O ₃	=	20·859
Fe ₂ O ₃	}	= 52·369
FeO		
CaO	=	11·570
Mn ₂ O ₃	=	2·834
MgO	=	0·409
		99·894

The impossibility of completely freeing the aërinite from associated impurities throws some uncertainty over these analyses. The mineral appears, however, to belong to the group of chloropals,* or to stand near Gillingite. It is evidently a product of the decomposition of other silicates. For the original description, consult the *Neues Jahrbuch*, 1876, Heft 4, pp. 352—358.

* It has, however, *much* less water than the minerals of the chloropal group.—J. H. C.