

VI.—Notes on *Vauquelinite* from Scotland, and *Cantonite* from Cornwall.

By THOS. DAVIES, F.G.S.

WHILST detaching a small crystal of leadhillite for examination with the polariscope, from a specimen brought from the Leadhills, Lanarkshire, which came into my possession some years ago, I observed one side of the mass to be more or less encrusted with a thin drusy coating, which, from its hardness and streak, I was led to suspect might be either the above species, or Laxmannite, described in 1868 by Nordenskiöld in the *Journ. f. prakt. chem.* of that year.

The bulk of the specimen consists of massive greenish pyromorphite mingled with cerussite, upon this occurs the vauquelinite. The remaining minerals are lanarkite, leadhillite, caledonite in tufts of minute acicular crystals, massive black cerussite and quartz. The thinness of the crust rendered it impossible to separate sufficient pure material for analysis without the entire destruction of the specimen, but small fragments were obtained sufficiently clean to establish its identity by means of a blowpipe examination.

Yielded no trace of water when heated in glass tubes; on charcoal easily fused to a dark-grey mass with small globules of lead. The characteristic copper and chromium reactions were obtained in the phosphorous salt and borax beads. Phosphoric acid was not tested for, because of the uncertainty of even the smallest fragment being freed from a minute adherent portion of pyromorphite, but the entire absence of water, a constituent of Laxmannite, point to the species vauquelinite.

A second specimen in my possession is from Wanlockhead, Dumfriesshire, and also occurs as an exceedingly thin crust upon massive pyromorphite, the associated minerals in this case being vanadinite and a little calamine (zinc carbonate). The same distinctive reactions were obtained as in that from Leadhills.

COVELLITE AFTER GALENA (*Cantonite*).

A few years since, the late Miss E. Carne of Penzance, submitted to me some specimens which, in rearranging her interesting and valuable collection, had given her some trouble in their identification. Among them was a pseudomorph of covellite after galena (cantonite) which, at that time, had been observed but in one locality, the Canton mine, Georgia, where it was associated with copper-glance after galena (harrisite). No record of its occurrence in Cornwall was in existence, to my knowledge, and the specimen with its associations bore such resemblance to those from America that I had great doubts as to the accuracy of the locality assigned to it. Miss Carne, however, did not doubt but that it came, as stated on the label, from the Wheal Falmouth, Cornwall. The label accompanying it, is as follows: "Copper ore with the fracture of galena.

Copper	64
Iron	3.5
Lead	3.25
Sulphur	25
Sulphuric Acid	1.25
Minute portion of Silver and loss	..	3

Huel Falmouth."

100

Some time after a specimen of the same mineral came into my possession with a label as follows:—

"The accompanying is a specimen of a singular ore lately rose at Huel Falmouth, containing upwards of 60 per cent. copper, and the residue very rich argentiferous lead; it was analysed by an assayer in Gwennap. As I cannot find the substance described in any mineralogical work, I have sent some specimens to Professor Jameson, at Edinburgh, for a more complete analysis, and I expect an early answer, the contents of which I shall be happy to communicate to the Society.—W. Tennant."

I have not been successful in my search for this analysis.

In the Trans. Roy. Geo. Soc. Cornwall, in the volume for 1832-8 I subsequently met with the results of an analysis made by John Michell of a "copper ore from Huel Falmouth," as follows:—

Cu	64.0	S	25.0
Fe	3.10	Sulph. Acid	1.5
Pb	3.5	Ag. & loss	3.0

These two analyses evidently refer to the same mineral, and taking into consideration its pseudomorphic origin, both of these results would correspond very fairly with that given by Pratt in the *Am. Journ. Sc.* Vol. 23, 1857, p. 418.

The physical and blowpipe characters of this specimen require no especial description, as they differ in no respect from those of the well-known American specimens. Associated species, cerussite.

I have to thank Mr. C. C. Ross of Penzance for kindly furnishing me with information of another locality represented in the collection now in his possession, viz. :—Wheal St. George, Perran. I am also much indebted to the same gentleman for the loan of a specimen from the Wheal Falmouth for comparison.