

*Note on Altaite from Burma.*

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BY the kindness of Mr. A. H. Bromly, Manager of the Choukpazat Gold Mining Company's mines at Choukpazat, Wuntho, Upper Burma, I have received a few hand-samples of the veinstuff from these mines. The vein runs in clay slate or chloritic slate, parallel apparently to the bedding, with a strike north-east to south-west, and a dip of  $20^{\circ}$  to  $25^{\circ}$  to the south. The veinstuff, to judge from the samples submitted to me, consists of white, somewhat saccharoidal quartz, with some calcespar, and contains iron pyrites, arsenical pyrites, visible free gold (rather pale in colour and apparently rich in silver), and the mineral that forms the subject of the present note. The latter generally occurs together with comparatively coarse gold in the richer portions of the vein, finely crystalline, though no distinct crystals can be made out, and very minutely disseminated, no particle larger than about 0.05 of an inch having been seen by me. The mineral is tin-white, with a somewhat yellowish tinge, has a high metallic lustre, and is quite opaque. It appears to be brittle; the broken particles show very perfect cleavage, which, under the microscope, can (probably with safety) be pronounced to be cubical. The hardness is 2-3. No particles sufficiently large for a determination of its specific gravity could be obtained.

I succeeded in separating 0.375 grain in a state of approximate purity for an analysis. With so small a quantity at my disposal, a high degree of accuracy was of course out of the question. The mineral was completely decomposed by moderately concentrated sulphuric acid, sulphate of lead being formed, whilst tellurium went into solution. The composition found was the following;—

Tellurium	...	...	...	...	...	34.2	}	91.6	
Lead	...	...	...	...	...	57.4			
Iron	...	...	...	...	...	0.2	}	6.1	
Calcic Carbonate	...	...	...	...	...	3.8			
Silica	...	...	...	...	...	2.1			
							97.7		

Silver was present, but not in determinable quantity.

Calculating the percentage composition upon the two essential elements, the above ratio corresponds to—

Tellurium	...	...	...	...	...	37.4	
Lead	...	...	...	...	...	62.6	
							100.0

This composition answers very closely to the formula  $PbTe$ , the percentage composition required by which is as follows—

Tellurium	...	...	...	...	...	37.9	
Lead	...	...	...	...	...	62.1	
							100.0

The correspondence thus shown is sufficiently close to enable me to identify the mineral as the altaite of Dana, although it appears to differ from the latter in some of its physical properties, *e. g.* in being brittle instead of sectile, and in its somewhat lower hardness. These differences may possibly be due to the minute state of dissemination of the Burmese mineral.

With respect to the relative age of the various minerals, nothing very definite can be observed, but the altaite and some of the other metallic minerals seem to be filling minute hollows or cracks in the quartz. In one instance the microscope showed a minute film of gold deposited between the cleavage planes of the altaite.