

2.632. It has a feebly shining lustre, and is slightly translucent on the edges, with a compact or finely granular texture, and an uneven sub-conchoidal fracture. Before the blow-pipe it fuses, with intumescence, into a white enamel. The rock in powder is attacked even by acetic acid, which removes 0.8 per cent. of carbonate of lime, besides 1.5 per cent. of alumina and oxyd of iron; the latter apparently derived from a carbonate. Nitric acid dissolves a little more lime, oxydizes the pyrites, and takes up, besides alumina and alkalis, a considerable portion of manganese. This apparently exists in the form of sulphuret, since, while it is soluble in dilute nitric acid, the white portions of the rock afford no trace of manganese before the blow-pipe; although minute dark-colored grains, associated with the pyrites, were found to give an intense manganese reaction. From the residue after the action of the nitric acid, a solution of carbonate of soda removed a portion of silica; and the remainder, dried at 300°F. was free from iron and from manganese."

No. I. is Dr. Hunt's analysis of the portion insoluble in nitric acid; No. II. that of the matters dissolved by nitric acid from 100 parts of the rock:—

	I.		II.
Silica	63.25	....	1.43
Alumina.....	22.12	....	2.43
Peroxyd of iron.....	....	....	2.40
Red oxyd of manganese...	....	....	1.31
Lime	0.56	....	0.60
Potash	5.92	....	0.49
Soda.....	6.29	....	0.98
Volatile.....	0.93	....	....
	99.07		

The bladed, aluminous mineral alluded to by Dr. Hunt is the Dawsonite of this paper, and will now be described.

Physical Characters.—Hardness 3. Specific gravity 2.40. Lustre vitreous. Colour white. Transparent—translucent.

As mentioned above, it is bladed, but the blades show a somewhat fibrous structure, which is best seen when fragments are examined under the microscope. With polarized light it exhibits beautiful bands of brilliant colours. As regards its crystalline form I am uncertain, though it is probably monoclinic, with the inclination of the principal axis about 75°.