locality. There is a considerable amount of material available for those who would like to add it to their collections. The contrasting pink of the thulite and green of the epidote make the specimens attractive.

A description of a similar occurrence of thulite was contained in notes by John W. Lee.[2] The specimens he described were obtained from a gneiss quarry near Hampton, Maryland, in 1895.

A NOTE ON CYANOTRICHITE

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Cyanotrichite is a basic copper sulphate which has been long accepted as a definite mineral species. Nevertheless, the evidence for its identity is in reality slight. On Dana's System analyses of this mineral by three authors from four localities are given which agree fairly well with one another and with the formula somewhat doubtfully proposed. But examination of the original papers from which these analyses are derived, shows that every one of them was made upon a minute amount of material which in no case had been examined optically. The two latest papers concerning this mineral[1] emphasize the need of optical data for cyanotrichite and better correlation with a reliable analysis.

In the Harvard Mineralogical Museum there is an unusually handsome specimen of cyanotrichite brought from the Grandview mine, Grand Canyon, Arizona, in 1906 by Professor J. E. Wolff. A surface of about 24 square inches is entirely covered with a dense mat of the pure blue fibres, admixed only with an occasional green crystal of brochantite. In parts of the specimen the cyanotrichite is implanted upon limonite in the most delicate and perfect spherulites, deep blue at their centers and shading to almost white at the tips of the delicate needles. It was possible to remove about half a gram of the fibres without serious injury to the specimen. This very pure material was studied optically by Professor E. S. Larsen and was analyzed by Miss Helen E. Vassar. The material is clearly identical with that studied by Rogers and Gordon in the papers cited.

[2] *Am. Jour. Sci.*, **11**, 171–172 (1901).

[1] Rogers, A. F. The optical properties and morphology of Bisbeeite, *Am. Mineral.*, **7**, 153 (1922).

Gordon, S. G. Recently described "bisbeeite" from the Grand Canyon is cyanotrichite, *Idem.* **8**, 92 (1923).

OPTICAL PROPERTIES: The material is strongly pleochroic. X = nearly colorless; Y = pale blue; Z = bright blue. Z = c; 2V = 82° $\rho < \nu$ large. $\alpha = 1.588$; $\beta = 1.655$; $\gamma = 1.617$

CHEMICAL COMPOSITION

1. Analysis of cyanotrichite by H. E. Vassar.
2. The same recalculated to 100% after omission of unessentials.
3. Molecular ratio.

	1.	2.	3.	
Al_2O_3	15.59	15.85	.155	1 x .155
CuO	47.50	48.27	.606	4 x .151
SO_3	12.19	12.38	.155	1 x .155
H_2O	23.20	23.50	1.305	8 x .163
Fe_2O_3	0.43			
CaO	0.11			
Insoluble	1.46			
	100.48	100.00		

The ratio derived from this analysis corresponds to the formula proposed by Dana, $4CuO.Al_2O_3.SO_3.8H_2O$ with an accuracy which confirms its correctness.

We may add to this record the description given by Rogers of the crystal form of his material from the same locality. The needles are orthorhombic and are bounded by three pinacoids. The optical orientation is: X = *a*; Y = *b*; Z = *c* = elongation.

This mineral recalls an interesting point in the history of the Harvard Mineralogical Museum. The name cyanotrichite dating from 1839 takes precedence by priority over the name lettsomite, given it in 1850 by Percy. Lettsom was an English mineralogist of some note in his day, who with Greg, wrote a Manual of the Mineralogy of Great Britain in 1858.

An ancestor of the mineralogist, Lettsom, was William Coakley Lettsom, a physician, writer and scientist who practiced in London, aided the introduction of vaccination after Jenner's discovery and made a great fortune. Dr. Lettsom became a correspondent of Dr. Benjamin Waterhouse one of the first professors of medicine at Harvard and the first to begin a Natural History Collection there. In the Harvard archives are letters showing that a gift of minerals made by Dr. Lettsom to Waterhouse in 1793 was the very beginning of the Harvard cabinet. The writer of this note takes a quiet satisfaction in thus being able to establish firmly as a species, after so long a lapse of years, the mineral which bears the name of the first benefactor of the Harvard Museum.