PLATE 8.

STALACTITIC BARITE FROM MADOC, ONTARIO

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STALACTITIC BARITE FROM MADOC, ONTARIO

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In the vicinity of Madoc, Ontario, there are numerous small mines which have been worked for fluorite during the war. Fluorite, calcite, and barite occur in veins which cut the Black River limestone as well as the pre-Cambrian rocks. The barite appears to be later than the fluorite, as it often forms crystalline crusts on large crystal aggregates of fluorite. The writer obtained from Mr. Edmund Hall, manager of one of the mines, some specimens of barite exhibiting a stalactitic structure of an unusual character. (See frontispiece.)

The vermiform cylindrical masses of barite, as a rule about a centimeter in diameter, are more or less curved, and, as indicated in the illustration, are not even approximately parallel. The outer surface of the individual masses is formed by the projecting ends of small crystals of barite arranged in a radial fashion with the macro-axis of the tiny crystals approximately parallel to the axis of the aggregate, while the faces of the projecting part of the crystals appear to be a macrodome (102). There is in each cylinder a small tubular opening about half a millimeter in diameter, in the center of the crystal aggregate.

The mineral has a specific gravity of 4.29 and is white in color. It contains a little magnesium and calcium and an unusually large amount of strontium replacing isomorphously part of the barium, as shown in the following analysis:

BaO	43.78	molecular ratio	0.286
SrO	13.95	" "	0.135 } 0.463
CaO	0.98	" "	0.017 }
MgO	1.01	" "	0.025 }
Al_2O_3	1.92		
Fe_2O_3	0.48		
SO_3	36.94	molecular ratio	0.462
H_2O	0.26		
	99.32		

In describing this peculiar aggregate, the writer is somewhat at a loss to account for its structure. Possibly the deposition of the barite, even tho not going on today, continued until the present land surface was attained, and the mineral was deposited on root fibers projecting down from the surface to the cavernous parts of the veins where the specimens were found. The formation of these peculiar aggregates would then find its analogy in the crystallization of rock-candy on threads suspended in saturated solutions of sugar. While the exact depth at which the specimens were obtained is not certain, it was probably less than 15 meters, as at the time of the writer's visit little work had been done below that depth.

MANGANOTANTALITE FROM AMELIA, VIRGINIA

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A deep red "columbite" from Amelia (at that time called Amelia Court House) was analyzed by Dunnington[1] many years ago and shown to contain manganese in excess over iron, and tantalum slightly in excess over columbium; it should therefore be classed as a manganotantalite. That it can still be obtained on the dumps at the locality was noted by Mr. Gordon[2] in 1918, and in the spring of the present year one of us (O. I. L.) found there a mass of bladed albite containing an unusually large crystal of the manganotantalite. It is about 7 mm. thick, and of irregular outline, tapering from about 30 to 15 mm., with small marginal portions showing distinct crystal faces. One of these, which was practically a separate crystal 3 x 2 x 1 mm. in diameter, proved to be brilliant enough for crystallographic measurement, as described below.

As manganotantalite is not a common mineral, it seems worth while to describe the physical properties of this specimen in some detail. The color varies from reddish brown to black, but in thin splinters is ruby red to orange brown, and where fractures traverse the mass it lights up in a bright light with intense red flashes like rutile or pyrargyrite. The streak is correspondingly red brown. The luster is metallic to adamantine. Hardness

[1] *Am. Chem. J.*, **4**, 138–139, 1882.

[2] *Am. Min.*, **3**, 28, 1918.