## Prof. How on the Mineralogy of Nova Scotia.

as large as a hen's egg, generally consisting of silky white fibrous crystals; these form with the dull blue matrix fine cabinet specimens. It is found also in common white gypsum, in selenite, and in fibrous gypsum ; sometimes it has on its surface crystals of calcite or Arragonite. At Newport it appears to be much less abundant than at Brookville, and to occur in white gypsum only. At both these places the mineral is imbedded in the matrix in solitary nodules; in one case I observed a nodule in a cavity whose base was lined with crystals of selenite, among which it was implanted. The nodules lately found, especially at Newport, are not always visibly crystalline, and are generally, even when silky fibrous, much harder in the interior than on the outside, the difference being about as 3 to 1. Careful analysis, however, shows them to contain water, lime, boracic acid, and soda, the latter being unmistakeably found in essential quantity after removal of boracic and silicic acids by heating with fluor and sulphuric acid: the crystalline form was seen under the microscope to be distinctly prismatic. Hence there is no doubt of the mineral being natroborocalcite.

As regards the composition of this mineral, I gave at a former page a modification of the formula originally proposed by myself, which, as at first given, was

## $NaO 2BO^3 + 2CaO, 3BO^3 + 15HO.$

This was proved by Dr. Kraut (Chemical News, February 22, 1867) to express most correctly the results of the best analyses of the mineral by different chemists, but was objected to by Dr. Lunge (*loc. cit.*), who preferred the formula

## $2(NaO 2 BO^3) + 5(CaO, 2 BO^3) + 42 aq.$

The concordance of the analytical percentages with those calculated from these two expressions is as follows :----

|                       | L                  | Lunge.           |                | How.           |  |
|-----------------------|--------------------|------------------|----------------|----------------|--|
| Soda                  | Calc.<br>5.82      | Found.<br>5.58   | Calc.<br>7·82  | Found.<br>7.21 |  |
| Lime<br>Magnesia .    | 12.95              | $12.69 \\ .50$   | 14.12          | 14.20          |  |
| Water<br>Boracic acid | . 35·49<br>. 45·74 | $36.85 \\ 44.38$ | 34·04<br>44·02 | 34·49<br>44·10 |  |
|                       | 100.00             | 100.00           | 100.00         | 100.00         |  |

In my analysis all sulphuric acid was removed by washing with cold water, a previous examination having given sulphuric acid 1.29, and magnesia 0.04 per cent. Dr. Lunge says the mineral (he alludes probably to that from Peru) "is never found pure, but always mechanically mixed with, and often perfectly pene-

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