

of this rock shows the existence of Biotite, Hornblende and crystals of a white feldspar. The polariscope shows the feldspar to be trichroic. The colours run in parallels, and the crystals shew beautiful striation.

4. Cranberry Point Diorite.—Macroscopically examined this rock shows abundance of Biotite and Hornblende. The Polariscope shews triclinic feldspar. This and the Porphyrite of Sandy Point seem to be closely related, but different from the Jebogue Point Dolerite. These two seem to be intrusive, but of a Lower Silurian age.

In considering the subject of the age of the gold-bearing rocks, it is evident that these crystalline rocks must be eliminated.

5. Yarmouth Harbour Rock.—This singular rock furnishes a very interesting section. It is composed of a glassy, undetermined mineral and hornblende. I have not been able to ascertain the nature of the former by the polariscope; portions of it seem to be a glass. One of the green hornblendic patches has a singularly pretty inclusion. In a small glassy area, bounded by two straight sides and two curved, is a perfectly round glassy inclusion. Turning the polarizer the inclusion darkens, until space and inclusion become altogether black.

Sections of other crystalline rocks are under examination. They will be the subjects of future notes.

---

ART. II.—CHEBUCTO NULLIPORES, WITH ATTACHES.—By PROF. D. HONEYMAN, D. C. L., &c. *Curator of the Provincial Museum.*

(Read December 11, 1882.)

OUR specimens appear to differ in their mode of growth. There is seemingly a vertical and a horizontal growth. Specimen No. 1 exhibits both. The upward growth developes into branches, the horizontal increases the body by layers, forming a *limestone*, having a concretionary and amorphous aspect.

Specimens Nos. 2 and 3 are amorphous. Of No. 1 the corallines encrust a stone. No. 2 and 3 are detached from their original support. Some of the tufts of the cespitose coralline have pits which have some resemblance to pores. Parts of the surface of the lamellar coralline have also numerous markings like pores. Still they are evidently nullipores.

*Attaches* 1 are specimens of *Algæ*, Rhodosperms. Cor. No. 2 has a large bunch of a beautiful *alga*.

This seems to be an article of food for fishes. I was familiar with it from the contents of fish stomachs before I met with it in its place of growth and was puzzled to ascertain its character.

Its name is *Ptilota Serrata*.

At. 2. In the recesses of the coralline tufts of specimen No. 1, are numerous foramenifera. In the bushy edge of specimen No. 2, are also specimens of the same foramenifer.

At. 3. On specimen 1 was a small *ophiura* star fish—Brittle Star.

At. 4. On specimen 1 are specimens of a species of Flustra.

At. 5. In specimen 2 are several *saxicava*. These have excavated their dwellings in the thick coralline,—No. 2 having entered between the base and the attachment.

At. 6. On all three are specimens of the pretty little gasteropod *chiton ruber*. There were many of these, more than can be now seen; unfortunately the Museum mice examined the specimens, and appropriated several of the *chitons* and the little *ophiura*.

At. 7. Are two pretty little patellæ. One is whole, the other is crushed. The species is *Patelloida*, or *Lottia testudinalis*.

At. 8. Is another little patelloida. It is evidently a different species from *patelloida testudinalis*. It may be *patelloida alveus*.

There are also many little white subconical forms on the tufts of No. 1. I have not been able to ascertain their nature.

We have thus noticed: *Algæ*, *Foramenifera*, *Ophiura*, *Polyzoa*, *Lamellibranchiata*, *Gasteropoda*, *Incertæ sedis*—7.

There is another interesting nullipore to which I would direct attention. This, also, was dredged at the mouth of Halifax harbour. It is decidedly lamellar. Broken in two it shows a concretionary structure. On its surface is a considerable growth of the algæ *Ptilota serrata*. Branches of this lying on the coralline become imbedded by the calcareous growth. Some of these having been removed, have left indented impressions in the same way as ferns, &c., leave their impressions in Carboniferous shales. Other attaches are numerous foramenifera; many of these are lying in the *algæ*. Others on the coralline are sometimes partially imbedded and covered by the growth of the former. It is possible that parts of the *alga* and others of the foramenifera are enveloped in the coralline in the manner of fossils. No part of this coralline, although of considerable size, is cespitose. This seems to show that the cespitose corallines are distinct from the lamellar.

The under part is very striking. It is altogether separate from its original attachment, and seems to have been so for a considerable length of time. Several *saxicava* are imbedded, but all are dead. The valves of some have numerous small perforations. The operators, doubtless, succeeded in destroying the tenants.

Tuberculous annelids (worms) in great numbers adhere to the base and its cavities. The inmates have long gone.

The tubes are of *serpulæ*, of, apparently, two species. One species has a singular head, or ending, while the other is plain. The ending has the form of a head, the opening having the appearance of a circular mouth. This form is evidently not accidental, as several have it.

Other tubes are spiral. *Spirorbis* of apparently three species. Some of these are attached to *saxicava*.

Some of the hollows are lined with *sponges*. Among the tubes are numerous foramenifera. Other attaches are two or three pretty little *anomia*.

## SUMMARY.

*Algæ, coralline, foramenifera, sponges, serpulæ, spirorbis saxicava, anomia.*

## GEOLOGICAL.

One specimen seems to throw some light on the mode of formation of one of our Carboniferous Limestones. In the Pictou carboniferous formation there is a considerable variety of limestones. Of the manner in which most of these were formed, and their age, there can be little doubt. The internal and collateral evidence is sufficient to determine these points. One of these limestones, however, is exceptional. Its mode of formation is obscure,—internal evidence of origin is wanting, and the age is subject to question. This limestone is imbedded in the sandstones, or high ground, north of New Glasgow. My attention was first directed to it in 1862. Polished specimens were among the economic minerals of our department at the London Exhibition. It was considered to be a limestone, or marble, that might be adopted for ornamental purposes. It is brown in colour, and has a concentric structure. I took an early opportunity of examining the deposit, and of securing characteristic specimens. One of these, which is in the Museum, was polished by Mr. Wesley, marble worker, for the Paris Exposition of 1867. It was found that the bed was of limited extent, and that the sandstone with which it was united interfered with the polishing. Another of the specimens, cut vertically, shows a sandstone base. On this there is first a calcareo-siliceous layer, which is amorphous. On this another is formed with several centres, above this it is beautifully concentric. The top of the specimen is cauliflower shaped. When Sir W. E. Logan and Mr. Hartley surveyed the Pictou coal fields in 1869, the latter examined the limestone, but was equally unsuccessful with myself in finding fossils which could determine the age of the formation. He succeeded, however, in finding one form, a *spirorbis*. There was a large number of these attached to a specimen somewhat resembling our own. The appearance was so striking and singular

that I will not readily forget it. I presume that the specimen is now in the collection of the Geological Museum, Ottawa.

There is, therefore, reason to suppose that the Hartley specimens and our nullipore are analogous, as both have concretionary lamellar structure and attached spirorbes, and that the carboniferous concretionary limestone is coralline or nullipore in origin.

---

ART. III.—NOTES ON SABLE ISLAND. By SIMON D. MACDONALD, F. G. S.

(Read March 12, 1883.)

IN bringing this Island and its surroundings to your notice this evening, I feel I am opening up a rich field for the future investigation of this Institute.

From its geographical position—midway between this coast and the gulf stream—it possesses characteristics peculiar to itself, and a phenomena so varied that there is work here for us all.

But not only does this Island invite our attention in the interests of science, but *demand*s our attention in the interests of *humanity*.

Situated directly in the pathway of commerce,—enshrouded for weeks together by impenetrable fog—encircled by eddies and currents of the most erratic character—its dangerous and ever-shifting sand-bars, together with its terrible record of disasters, dating back from the earliest history of this country—it has earned for itself among mariners the well-merited appellation, that of “the grave-yard of North America.”

And were we to-morrow to visit this island and witness its wreck-strewn shores—the ghastly grin of skeletons protruding from the embankment or lying awash on the beach—and listen to the sickening tales of the surf-men, we would feel guilty, indeed, if we, as members of one of the oldest scientific societies in