advocated by Messrs. Rowney and King, may be dismissed at once. Independently of the insuperable chemical difficulties which have been pointed out by Dr. Hunt*, and which he proposes to discuss more fully in his papers on Chemical Geology, now in the press, we have the further facts that no replacement of serpentine by calcite is indicated by the relations of these minerals to each other, while such replacement as does occur is in the other direction, or the change of calcite into serpentine, as evidenced by the state of preservation of some specimens of *Eozoon*, above referred to. Further, this theory fails to give any explanation of the specimens mineralized by pyroxene, dolomite, and calcite, or to account for the nummuline wall, except by attributing it to the alteration of chrysotile, which is inadmissible, as the veins of this mineral are newer than the walls supposed to have been derived from them.

2. Inasmuch as many apparently concretionary grains and lenticular masses of serpentine exist in the Laurentian limestones, it may be supposed possible that *Eozoon* is merely a modification of these concretionary forms. In this case, the filling of each lamina and chamberlet of *Eozoon* must be regarded as a separate concretion; and even if we could suppose some special cause to give regularity and uniformity to such concretions in some places and not in others, we still have unaccounted for the canals and tubuli, or the delicate threads of serpentine representing them. Further, we have to suppose that a tendency to this regular and complicated arrangement has affected in the same way minerals so diverse as serpentine, loganite, pyroxene, and dolomite.

3. The only remaining theory is that of infiltration by serpentine of cavities previously existing in the calcite. There is no chemical objection to this, inasmuch as we know of the infiltration of fossils in other formations by minerals akin to serpentine; and in these limestones the veins of fibrous serpentine have evidently been introduced by aqueous action subsequently to the production or fossilization of the *Eozoon*. Further, the white pyroxene of the Laurentian limestones, and the loganite and dolomite, are all known to have been produced by aqueous deposition. The only question remaining is, Whence came the original calcite skeleton with laminæ, chambers, canals, and tubuli to be so infiltrated? The answer is given in the comparison with the tests of Foraminifera, originally proposed by the writer, and illustrated in so conclusive a manner by the researches of Dr. Carpenter.

I may add, in conclusion, that had geologists generally the opportunity of studying *Eozoon in situ*, in good exposures, like that at St. Pierre, they would much more fully understand and appreciate the arguments for its organic nature, than when they have had opportunities of examining only polished specimens and slices†. Its

* Trans. Royal Irish Academy, 1871.

† I have been sorry to find, from specimens in the cabinets of my friends, that some London dealers are in the habit of circulating specimens labelled "*Eozoon canadense*" which have no trace of the structures of the fossil, but are either badly preserved acervuline portions or merely ordinary serpentine marble. Such specimens can, of course, only mislead, and may produce much unnecessary scepticism.