

which is the special resting place of Eozoon, and is also associated with beds rich in graphite and in calcic phosphate. Still higher is a fourth limestone, and then the Upper Laurentian. Mr. Vennor's observations relate to a region about eighty miles distant, on the west side of the Ottawa and remarkable for its rich deposits of apatite and graphite, though affording Eozoon only in a few places, and in these not precisely in the same state of mineralization as at Petite Nation and Grenville. In this region Mr. Vennor has worked out a series corresponding in its main features with that ascertained by Logan, and it now appears that in both series Eozoon is apparently confined to one horizon, and that in this it is associated with the more important deposits of graphite and apatite. It is true that in the districts explored by Mr. Vennor there are some groups of strata of uncertain age, and which may be upper Laurentian or even Huronian; but the main accordance above stated seems to be certain. It would thus appear that Eozoon and those deposits of graphite and apatite which are probably of organic origin, are characteristic of one great zone of the Lower Laurentian.

(6.) The abundant phosphates occurring in the Lower Laurentian, and as already stated in irregularly stratified beds, and associated with graphite and Eozoon, naturally raise the question whether they are of organic accumulation. The apatite of the Lower Laurentian has indeed as yet afforded no organic structure. Some light may however be thrown on its origin by the analogy of later deposits of similar character; and I have endeavored, in a paper recently read before the Geological Society of London, to show that the calcic phosphate contained in the Cambrian and Silurian rocks of Canada presents in its mode of occurrence points of similarity to that of the Laurentian; while the prevalence of low forms of life, as *Lingule*, *Trilobites* and *Hyalolithes*, having much calcic phosphate in their skeletons, in the Primordial seas, and the consequent accumulation of beds rich in phosphatic concretions and coprolites, points to the possibility of similar conditions in the earlier Laurentian. I may also here refer, as corroborative of this view, to the recently published researches of Hicks and others on the Silurian Phosphates of Wales.

(7.) The objections to the animal nature of Eozoon recently promulgated by Otto Hahn, and which have been answered in detail by Dr. Carpenter and myself, have directed attention anew