

seem to contradict the greater age assigned to the rocks, I have not ventured to adopt that opinion—though, up to this time, without taking any notice of Dr. H.'s references to my supposed mistake.*

Another point in which I find I am at issue with Dr. H. is the age of the great iron ore bed of "Webster's" or "Blanchard's" on the East River of Pietou, and which also has been traced to the eastward in Merigomish. This I have assigned to the Lower Helderberg on the evidence of stratigraphy and fossils. Of the latter large collections have been made by Mr. D. Fraser and myself in connection with the recent explorations of these ores. They appear to be of unequivocal Upper Arisaig facies, but include many new and interesting forms which I had hoped to have described ere this time, but this has proved absolutely impossible from want of leisure. They may represent a special horizon in the Upper Arisaig, or even between the upper and lower members, or their peculiarities may be the result of local conditions of deposit. Dr. H. seems to affirm that this iron ore is of the same age with that of Nictaux, and that both are of the age of the Clinton or Medina sandstone. Neither of these positions can be correct, for the fossils of the East River hematite seem closely related to those of the typical Upper Arisaig series, while those of the Nictaux ores are, as already shewn, newer than the Upper Arisaig. These two great deposits of iron ore are therefore not of the same age, and neither of them can be as old as the Clinton. Dr. H. correlates them with the Clinton ore-beds of the United States, but he omits to notice that there are also ore-beds in the Helderberg series of that country. I should not, indeed, be surprised were some of the newly opened beds at Nictaux, which I have not seen, to prove of Helderberg age, or were beds of Oriskany age to be found at Pietou. It is probable, however, that these ore-beds are less constant than some of the strata associated with them.

The remarks made by Dr. H. on the alleged Lower Silurian of Wentworth, scarcely merit criticism. It is to be regretted,

* It is to be observed here that the relations of the genera *Petraia* and *Zaphrentis* are not so clearly defined as they should be. Some palaeontologists of eminence reject *Petraia* altogether, and unite these corals with *Cyathophyllum*, and the limits of the genus *Zaphrentis* are differently understood by different authorities. Still there are certain forms, by whatever name known, which are, in our American geology, characteristic of certain formations, and it is by this indication that I have been guided in this case.