

that independently of the determination of species, the whole aspect of the fauna of the Nietaux iron bed, in its abundance of large ribbed spirifers, of large strophomenoid shells, and of great lamellibranchiate species, is different from that of the Medina, and on the contrary reminds an observer forcibly of the Oriskany sandstone of Gaspé and of western Canada. I shall show in the sequel that it is also distinct from that of the Upper Silurian red hematite of Pictou.

It should, however, be distinctly understood, that, in so far as I have held Devonian rocks to exist at Nietaux and Bear River, the upward extension of such rocks is limited to the Oriskany sandstone, and should any one hold that this formation may be included in the Upper Silurian, I have no objection; though I think that on physical grounds and by virtue of its close relationship with the overlying formations, it has quite as good claims to be correlated with the Lower Devonian.

The question which has been raised respecting the age of the granite, can only be discussed profitably on the ground. My notes of many years ago assure me, however, that I have traced the Lower Devonian beds into contact with the granite in such circumstances as prove the later date of the latter, and there are now in my collections specimens showing the gradations from the fossiliferous to the altered strata, including some which hold Oriskany fossils, but have assumed an incipient gneissic structure, and were penetrated by granite veins. It is further to be observed that the age assigned by me to these granites accords with the fact that in Nova Scotia the formations older than the Carboniferous are more or less in an altered and disturbed condition, and that granite debris does not occur as a prominent ingredient in our formations till the Lower Carboniferous age. In the district in question, the thick beds of granitic sandstone in the Lower Carboniferous near Wolfville and Lower Horton, afford a good illustration. I hope that this interesting district may soon be surveyed and mapped by the officers of the Geological Survey, when we may expect to have more light thrown on this subject. In the meantime I would caution geologists against accepting the somewhat crude deductions of the paper referred to, more especially as this question affects our conclusions as to the age of the auriferous veins of the Atlantic coast, and as to the correlation of the intrusive granites of Nova Scotia with those of other parts of Eastern America.