

fragments, chiefly heads and *pygidia* of Trilobites; and it is very difficult to obtain specimens on account of the great hardness of the stone. I succeeded, however, in collecting the following species: *Conocephalites Zenkeri*; *Dikellocephalus magnificus*, *D. planifrons*, *D. megalops*, *D. cristatus*; *pygidia* of a *Dikellocephalus* not named by Billings, but figured No. 11 and 12; *Arionellus cylindricus*, *A. subclavatus*; *Menocephalus Sedgewicki*, *Menocephalus globosus*; a large *Capulus*, an *Orthisina*, and the stems and even the foot of a Crinoid.

All the known species of the Redoute limestone have been described in a masterly manner by Mr. Billings in his memoir, *On some species of Fossils from the limestone near Point Levi, opposite Quebec*, August, 1860. I did not find the *Dikellocephalus Belli* and *D. Oweni*, nor *Agnostus Americanus*, *A. Orion* and *A. Canadensis*, which Mr. Billings describes as part of his fauna of Limestone No. 1. Without touching the stratigraphical question, Mr. Billings separates the species under the heads of Limestones Nos. 1, 2, 3, and 4. His numbers 2, 3, and 4, are evidently what I call the Calciferous Sandstone strata, and his No. 1 represents in part the Redoute Limestone. I say in part, for, perhaps, he has put in No. 1 some specimens resembling those of the Redoute Limestone, especially when broken in very small fragments, that really belong to the *strata de la terre du Curé*. For instance, I found a good specimen of his *Bathyurus bituberculatus*, not at the Redoute, but at the *terre du Curé*, and I did not find a single specimen or trace of the genus *Bathyurus* in the Redoute Limestone; consequently my observations in the field do not lead me to consider the genus *Bathyurus* as a primordial one; it belongs exclusively to the lower part of the second fauna. According to my observations, the fauna of the Redoute Limestone is entirely primordial, without any mixture whatever of fossils of the second fauna, being limited to the genera *Conocephalites*, *Dikellocephalus*, *Arionellus*, *Menocephalus*, *Capulus*, *Orthisina*, and a Crinoid, which characterize the primordial fauna in America as well as in Europe.

The inferior part of the St. Albans group is formed by what has been called the Sillery and Chaudière red shales and sandstones, in which no fossils have as yet been found. In Canada this part of the group is much more developed than in Vermont, or perhaps the difference in colors is due to metamorphism in Vermont.

Finally, there is a beautiful *quartzite* at the falls of Montmorency, which Mr. Logan, for an unknown reason, continues to call Laurentian *gneiss*. It forms the bed of the Montmorency river and the chasm of the precipice. It is indistinctly stratified by beds from ten to twelve feet thick, very ~~dark~~ and compact, and has all the characters of a metamorphic sandstone or true quartzite. Direction or strike N. 45° E. to S. 45° W., dipping south-east at an angle of 80 or 85 degrees.

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