

series of black bituminous slates, with intercalations now and then, more especially near the base of the fall, of small beds of limestone. This system of slate is strongly upheaved, the beds dipping east east south at an angle of  $60^{\circ}$ , and near the foot of the fall they are almost vertical. They form a sort of amphitheatre around the falls and are prolonged toward the St. Lawrence River, disappearing beneath the water and reappearing at the Isle of Orleans. I find no fossils in this system. The upper part of the fall is formed by a series of blue limestone 40 or 50 feet in thickness, almost horizontal near the bridge, but inclined from  $10^{\circ}$  to  $15^{\circ}$  east east south, on the left side of the fall near the chasm. This limestone, which is a little marly, rests directly on the quartzite rocks; it contains immense numbers of ramose corals, which were submitted in 1850 to Milne Edwards and Jules Haime, and were identified by those learned paleontologists with the *Alveolites repens* (Fougt.) of the Upper Silurian of Dudley and Wenlock in England and of Gothland in the Baltic, and nearly related to, if not identical with, a ramose coral of the Niagara group at Lockport. The *Alveolites repens* was the only fossil found by me at Montmorency, and was noted with the suggestion that the limestone belongs to the Trenton or perhaps the Niagara group. The quartzite and mica-schist *have upheaved the bituminous black slates, and the almost horizontal strata of limestone have been deposited after the dislocation.* This description of Montmorency Falls differs widely from the description published by Mr. Logan, and, now that the question of the Primordial fauna and the Taconic system is brought forward, I have no doubt that those black slates at the foot of Montmorency Falls, the strata of the Isle d'Orleans, the city of Quebec, the Plains of Abraham, Point Levi, all the south shore of the St. Lawrence going up the Chaudière River as far at least as the Chaudière Falls, which are all strongly elevated, dislocated, and follow the general direction east  $20^{\circ}$  north to west  $20^{\circ}$  south, belong to the Taconic system of Vermont and Eastern New York, and that in this system the fossils belonging to the Primordial fauna have been found. I did not see the anticlinal axis with fault, described by Mr. Logan, and I explain the relations of the rocks by a *discordance* of stratification, caused by upheaval an-