

*Lorraine Shales or Hudson River Group.* — Mr. Logan, in his section from Montmorency to the Island of Orleans, regards the bed of the St. Lawrence as entirely formed by dark gray shales and sandstones, which he considers of the age of the Hudson River group. Having no diving apparatus at my disposition, I was unable to follow him to the bottom of the St. Lawrence. If this group really exists in the vicinity of Quebec, it will be brought out by a careful examination of all the strata between Ste. Foix and Indian Lorette.

*Utica Slates.* — Dr. Emmons, in his *Geology of New York*, 1842, p. 117, refers the slates of Montmorency Falls to the Utica Slates, having found there the characteristic Trilobites of *Triarthrus Beckii*. Dr. Bigsby also calls them Utica slates (*On the Geology of Quebec and its environs*, 1853), and so did, after their example, Mr. Logan. In my short exploration of 1849, I erroneously considered those black slates of Montmorency Falls as older than the Trenton Limestone forming the summit of the falls; but at my recent visit I found the opinion of the geologist above named to be correct.

*Trenton Limestone.* — The thirty feet of limestone at the top of Montmorency Falls, and at the foot of the precipice immediately in contact with the quartzite, are of the Trenton Limestone age, as Mr. Logan has stated in his description of Montmorency formations; fossils are very abundant in both places.

*Black River Group.* — I was unable to refer any strata to the subdivisions of this group. Mr. Logan does not give any special localities for it, having only put it in his diagram and theoretical section without other notice.

*Calcareous Sandstone.* — This group is composed, at the summit, of blue schistose marls, interstratified with thin bedded limestones, blue and sometimes almost black, and large masses of conglomerate, the size of the rounded pebble attaining even that of the true boulder. In this upper part, especially in the cliff on the road from the ferry to Notre Dame church at Point Levi, are found a quantity of the celebrated compound *Graptolites*. The citadel and the old town of Quebec are built on it. Then there is a succession of gray slates, sometimes almost black, with alternations of yellowish coarse sandstone, magnesian conglomerate, and twenty or thirty feet of a gray limestone, brecciated, hard, and very fossiliferous. I did not see the lower part of the Calcareous Sandstone; perhaps it has been concealed by the dislocations, or was never deposited in this part of Canada. The thickness of the whole is about six hundred feet. This number appears at first a small one, but if we take into consideration the numerous foldings of this deposit, and also the narrow band it forms, it will be seen to be sufficient, for the ridge which it forms is never more than a mile and a half in width, extending from Quebec to the Plains of Abra-