

secondly, that there intervenes a large volume of Primordial strata, between it and the Lower Potsdam. The unconformable rocks of Conception Bay, consisting of conglomerates, limestones, black, red and variegated slates, micaceous sandstones and shales, &c., have been found at some parts to abound in fossils, although often in a very fragmentary state, all of which are pronounced by Mr. Billings to be typical of the Primordial age, and it is only towards the summit of the section that the organisms begin to assume somewhat of the aspect of the Lower Potsdam. The group is repeated under similar circumstances in the country surrounding Trinity, St. Mary's and Placentia Bays: with the exception that there is a greater mass of sandstone at the base in Trinity, than in Conception Bay, in which no fossils have been found hitherto: and the variegated slates which are mostly concealed below the waters of Conception Bay, are largely displayed between the Bays of St. Mary and Placentia, and are in some parts crowded with *Paradoxides*. The total thickness of the accumulation in Conception Bay was estimated in my report for 1868 at 3,830 feet. The great masses of white marble near the entrance to Canada Bay and also of the Cony Arms, were placed in my report of 1864 as Potsdam; but there appears to be some reason to suspect that the true horizon is still lower down in the scale of superposition, and that the *Lower Potsdam* in that region begins with the black shales with *Lingula*, and some calcareous strata with *Trilobites*, which rest upon the metamorphic rocks of the Clouds Mountains. On the western side of the island likewise, the lower limestones of the Humber river, which rest upon Laurentian gneiss, and which run out on the North side of St. George's Bay, may probably prove to be Pre-Potsdam. The calciferous formation is well marked by the fossils on the Eastern side of the island in Canada Bay, at the N. E. and N. W. Arms, and is extensively developed in Hare Bay; and on the Western side, it is more or less displayed along the coast from Port au Port to Cape Norman. The succeeding rocks of the Quebec group were recognized at Hare Bay, with a wide spread of serpentine and other magnesium rocks, extending from Hare Harbour to Pistolet Bay; and further South, on the peninsula between White Bay and Notre Dame Bay, which terminates at Cape St. John, serpentines, soapstones, dolomites, &c., are developed in large volume at Bay Verte, Ming's Bight, and along the Southern shores West of Shoe Cove. It is within the latter belt that the now celebrated Union Mine of Tilt Cove is situated. The rocks at Twillingate were supposed also to be of the same horizon, but that country requires further investigation. The serpentines are known on the Western side of the island, between Bonne Bay and the Bay of Islands, and striking Southerly from York Harbour in the latter, they probably run into the sea, between Bear Head and Coal Brook. The Lewis division of the group is distinctly marked at some parts of the Western distribution by the organic remains; but on the Eastern it is not so well defined, and no fossils have been discovered hitherto. The upper member of the group—the Sillery—has not been clearly made out, except it be at the extreme North-eastern end of the island; and none of the