

The extension inland of the pleistocene gulf or sea of the St. Lawrence is the first thought to suggest itself. But how far up did the salt water extend? is the question. Marine fossils collected, and reported by Sir William Logan and his assistants, proved the extension as far as the Archaean peninsula, or isthmus which extended from the Chats Rapids, on the Ottawa River 25 miles above Ottawa, to Kingston in the direction of the Adirondacks. Beyond this ridge is the valley of the great lakes of the St. Lawrence into which I am not aware any evidence has been produced of the presence of the waters of the sea. I spent Sunday, November 6th, in repeating a former excursion of the Club which I did not accompany to the Chats Rapids, with a view to studying the character of this ancient ridge, or peninsula, where it is crossed by the Ottawa River. At Quyon, on the left bank, travelling northwards I rose over 100 ft. in  $2\frac{1}{2}$  miles to the level of a flat wide plain, which extended up the river, past the Chats Rapids to Shawville 14 miles, and to Clark's 7 miles beyond Quyon.

At Quyon, Shawville, and Clark's the saxicava sands were seen overlaid by heavy gravel deposits of a river formation of the pleistocene. Marine fossils have indeed been reported by Sir William Logan as far up the Ottawa valley as Lake Coulange, 80 miles above Ottawa City; and I think Mr. Ami can tell you of localities beyond that, which have furnished the characteristic fossils of Green's Creek.

There was a peculiarity at Quyon, however, which is worthy of mention—the hummocky surface of the leda clays, produced by glacial action. The ice action was plainly later than the clay deposits; consequently it had nothing to do with the waters which deposited the clays.

On the line of the Canada Pacific from Carleton Junction to Peterborough, where I crossed the Archaean peninsula, during my recent holiday vacation, glacial action on a great scale was again observed, following a line evidently having a relation to this ancient peninsula. There were smooth and level, or slightly rolling forms; then suddenly the characteristic pinnacles of Waterloo county, less developed than in Watford, but accompanied, or perhaps replaced, a little further east by the characteristic smaller glacial hummocks of Quyon. As ocular evidence of this glacial action I will direct your