

of these places were any long straight grooves observable, and I feel persuaded that any degree of freedom of motion in the rocky fragments forced along by small pieces of ice, or by a flood of water, would be quite incompatible with the mechanical effects exhibited in what are called glacial furrows.

I have stated that, between Kingston and Quebec, the quartzose sandstone retains the grooving much less distinctly than the limestone or granite. The largest area over which I observed the furrows to preserve a perfect parallelism, was a floor of limestone forty yards wide, from which clay had recently been removed. It was situated about six miles west of Gannanoqui. I saw the surfaces of smoothed granite on the Rideau Canal, six miles north of Kingston, swelling into those flattened dome-shaped forms called "roches moutonnées," so common in Sweden, and near the glaciers in Switzerland.

Although in this part of Canada the boulders are usually uppermost, yet at some points, near Gannanoqui, and elsewhere, they have been found, in sinking wells, to lie thirty feet deep in the clay and sand.

The St. Lawrence, in its course from Lake Ontario to Montreal, a distance of about 160 miles in a direct line, has a wide extent of low ground on both sides of it. The river falls in that distance 214 feet, descending by a succession of rapids, between which are lake-like expansions. At the rapids, the Transition limestone, or sandstone, or the intrusive trap, or subjacent gneiss, are exposed, but the valley is for the most part occupied by the boulder formation, the thickness of which, at the Belouse rapid, and at