

plorations is that lying between the Niagara and St. Clair Rivers, and the object in view in undertaking and prosecuting them was chiefly the gratification of my own tastes, for which, however, professional engagements have afforded both opportunities and further stimulus. I lay but little claim to the merit of originality in the observations I shall have to record; the geological structure of the regions in question having been fully investigated and most ably reported on by our Provincial Geologists; and in stating my own observations I shall endeavour, as far as the nature of the subject will admit, to avoid repetition of the facts and phenomena which have been so fully chronicled by them, and to confine myself to such supplementary details and to such deductions and inferences as my own enquiries and studies may enable me to make. As illustrative of some of the most interesting peculiarities of structure in the region under notice, I propose also to reproduce the arguments of Sir Charles Lyell and other observers relative to the retrocession of the Falls of Niagara; in corroboration of which I have noted some additional facts which have not hitherto been recorded.

SECTION I.

GEOLOGICAL FEATURES OF THE NIAGARA AND GORE DISTRICTS.

General Description.—The range of high lands which we are accustomed to denominate “the Mountain” running eastwards far into New York State—maintaining throughout a nearly uniform elevation of about four hundred feet above the level of Lake Ontario, and forming a platform or table land, in a basin of which Lake Erie is situated—bends round the head of Lake Ontario and continues in a north-easterly direction till it gradually disappears in the neighbourhood of the Bay of Quinté. The same geological formations do not, however, occur throughout the whole of this distance, as I shall hereafter point out. Along the southern shore of the lake, the ridge runs at a distance varying from four to eight miles from the shore, and presents a nearly uniform precipitous escarpment on its northern flank. Around Burlington Bay it approaches still nearer the margin of the lake, and at East Flamboro’ bends to the northward and loses for the most part its precipitous character, and recedes gradually further from the shore, being not less than twenty-four miles distant in the rear of Toronto, though again, as we