

but corresponding also in the proportionate number of individuals belonging to each species, the valves of *Cyclas similis*, for example, being the most numerous. The same year I found also a remnant of the old river-bed on the opposite or Canadian side of the river, about a mile and a half above the whirlpool, or two miles and a half below the Falls. These facts appear conclusive as to the former extension of a more elevated valley, four miles, at least, below the Falls; and at this point the old river-bed must have been so high as to be capable of holding back the waters which covered all the patches of fluviatile sand and gravel, including that of Goat Island. As the table-land or limestone-platform rises gently to the north, and is highest near Queenston, there is no reason to suppose that there was a greater fall in the Niagara when it flowed at its higher level, than now between Lake Erie and the Falls; and according to this view, the old channel might well have furnished the required barrier.

I have stated that on the left, or Canadian bank of the Niagara, below the Falls, I succeeded in detecting sand with freshwater shells at one point only, near the mouth of the muddy river. The ledge of limestone on this side is usually laid bare, or only covered by vegetable mould (as at *e*, fig. 1.), until we arrive at the boulder clay (*f*, fig. 1.), which is sometimes within a few yards of the top of the precipice, and sometimes again retires eighty yards or more from it, being from twenty to fifty feet in height. I also found an old river-bed running through the drift parallel to the Niagara, its course still marked by swamps and ponds, such as we find in all alluvial plains, and only remarkable here because the river now runs at a lower level by 300