

Acadia After the Ice Age.

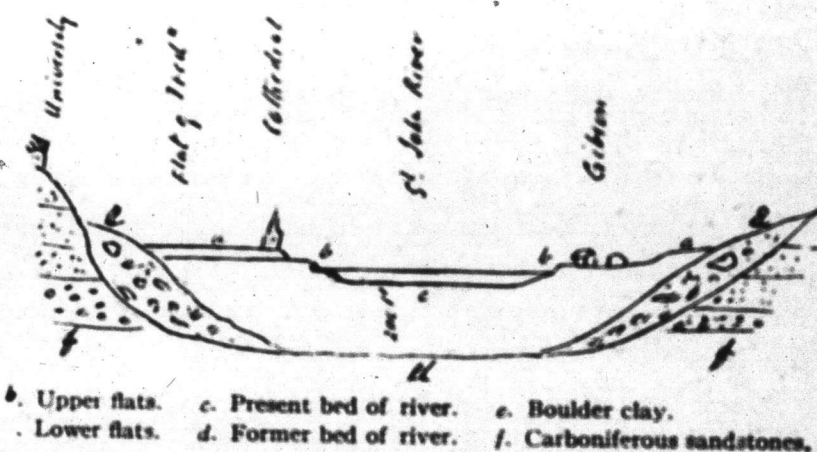
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The Ice Age, as described in the last chapter, saw Acadia buried in a mantle of ice and snow, not a mantle of a few feet only, but hundreds, perhaps thousands of feet thick, reducing it to a condition of which Greenland and the Antarctic continent alone can give us any conception. It was indeed a geological winter, and whatever its cause, it must also have been a winter of vast duration, one in which, even in middle latitudes, all life was absent, and when the whole landscape, had there been any one there to see, would have presented to the eye nothing but unbroken fields of dazzling snow. But this geological winter, like our shorter ones, has passed away, and we are now to consider some of the conditions and results of that passing.

With what occurs in the closing of our ordinary winters we are all familiar. Swollen brooks, flooded streams, rivers raised to their highest pitch and vastly augmented in volume as well as in velocity, are the common accompaniments of the rapid melting of the winter's snows. On mountain slopes masses of rock, loosened by expanding frosts, but for a time held in place by the latter, now descend in land-slides and avalanches. Vast quantities of earth, easily borne by the swift currents, make these latter turbid with suspended mud, while trees, houses and occasionally animals are caught by the rapid moving torrents and swept away to destruction or to burial. Ice jams are formed leading to the inundation of extensive low lands, or sometimes, by the temporary obstruction of stream or river channels, compel the waters to seek for themselves a new outlet. Ravines or gullies are gouged out, often with great rapidity, and various effects are produced which these same streams or rivers would be wholly incompetent to determine at their ordinary summer level. Can we doubt that the spring or springs which followed the great geological winter led to similar results, but upon a vastly larger scale? Let us see if we cannot find some proofs of this.

To begin with let us consider for a moment some of the conditions presented in and about the city of Fredericton. As most of my readers are aware the capital of New Brunswick is situated upon a tract of nearly flat land bordering the St. John river, which sweeps around the city in a broad crescentic curve, the length of the flat being nearly two miles, while the extreme breadth is little short of a mile.

On the opposite side of the river is a similar but less extensive flat, on which are found the villages of Gibson and St. Marys. Upon the Fredericton side the hills which bound the valley rise somewhat abruptly, while on the opposite side the ascent is more gradual, being partly broken by the tributary valley of the Nashwaak. The material constituting the flats on either side is wholly made up of sand and clay, chiefly the latter, which is exposed in places on the banks, and in borings for water has been found to have a depth considerably over 200 feet. It is regularly stratified, and besides that which constitutes the main flat, now about twenty feet above low water, a second flat appears which is annually submerged in times of freshet. That both



are due to river deposition is obvious, for with every season more or less mud is deposited from the overflow of the latter and it is to this cause, in the main, that the fertility of the intervaes and islands of the St. John, similarly constituted, and which are of such great value to the farmer, is due. But the materials found at the foot and on the slopes of the bordering hills are of quite a different character. These also comprise much clay, but there is now no stratification, while imbedded in the clay, without any order of arrangement whatever, are detached masses of rock, as various in size as they are in composition, and which, in many instances, have evidently come from some distant source. Such deposits are known as "boulder clay" and they are the results of the ice action which, as described in a previous chapter, affected all this region during what is known as the "Glacial Era." It is only well up on these slopes that we find any rocks in place, and these, representing the grey sandstones and conglomerates of the coal-formation, in places form projecting bluffs as though they formerly abutted against the waters of some rapidly moving stream. Finally, upon the summit of the hills, wherever these