

During the spring floods, the channel of this river would be more direct, and then a steamer of light draught (I have been informed) might ply at least as far up as Fort Ellice.

The Saskatchewan enters Lake Winnipeg near its northern extremity, in lat.  $53^{\circ}$  N., nearly; and with the exception of two or three rapids, might be navigated by steamers in summer to within sight of the Rocky Mountains.

Its general width is about 300 yards; unfortunately a very serious impediment to navigation occurs at its mouth, where there is a very formidable rapid called "the Grand Rapid." Here the river makes a descent of 40 feet in less than 3 miles, and actually foams through a rocky channel. This rapid would form an obstacle to the ascent of steamers; how far surmountable by a reasonable outlay of capital I am not prepared to say, but I think it highly probable, since there is no want of depth of water in the channel of the river at the rapid, that steamers could be made to ascend it by the American plan of warping.\*

A second small rapid occurs below Fort Carlton, where the difficulty to contend against would be an insufficiency of depth in the channel at that spot. The other rapids are but trifling obstacles, and, if removed to a sufficient extent, the river would be available for steam navigation during the greater part of the months of May, June, and July.

The lower or main Saskatchewan River, below the confluence of the north and south branches, (or North and South Saskatchewan, as I shall in preference term them,) flows entirely through thickwood country, which is often low and marshy, and does not properly fall within the prairie region explored by the Expedition.

The North Saskatchewan has its source from glaciers in the Rocky Mountains, in latitude  $52^{\circ}$  N., and longitude  $117\frac{1}{2}^{\circ}$  W., and from the same ice-filled valleys also rise branches of the South Saskatchewan and the Columbia. At first the North Saskatchewan has a north-easterly course until it reaches the Snake Portage in latitude  $54^{\circ}$  and longitude  $111^{\circ}$ , half-way between Fort Edmonton and Fort Pitt. It then changes to a south-east direction, which it pursues until it reaches latitude  $52^{\circ} 20'$  at its "Elbow," where it changes its course again with a sudden bend, and flows to the N.E.

It is a singular phenomenon, which may be observed by a glance at the map, that all the large rivers of the plains, and many of the smaller streams also conform to these great and abrupt deflections from their general direction.

From the Rocky Mountain House to Fort la Corne, the North Saskatchewan traverses the plains in a valley that varies in depth from 100 to 300 feet, and never exceeds two miles in width. The greater part of this width is occupied by alluvial flats, the river itself rarely exceeding 400 yards in width. The alluvial flats, which form the finest quality of land in this part of the country, are often well timbered, but from the manner in which the river winds from side to side of the valley, the "points," as they are termed, are seldom more than two or three miles in extent.

Wherever the banks of the valley slope gently back to the higher prairie level, as at Fort Carlton, there are to be found the most desirable spots for settlement. By inspecting the map it will be observed that the general course of the river is bounded by hills which sometimes recede to a considerable distance. These hills rise two to four hundred feet above the general level, and skirting along their base there is often to be found areas of land of fine quality, while the whole distance, sometimes equal to 30 miles between the hills and the river, is fine grazing land, and as it all lies within the limit of the partially wooded belt of country, there are "bluffs" that will afford shelter to stock.

The richness of the natural pasture in many places on the prairies of the second level along the North Saskatchewan and its tributary, Battle River, can hardly be exaggerated. Its value does not consist in its being rank or in great quantity, but from its fine quality, comprising nutritious species of grasses and carices, along with natural vetches in great variety, which remain throughout the winter sound, juicy, and fit for the nourishment of stock.

Almost everywhere along the course of the North Saskatchewan are to be found eligible situations for agricultural settlement, a sufficiency of good soil is everywhere to be found, nor are these advantages merely confined to the neighbourhood of the river; in several districts, such as N.W. of Carlton, we traversed fine land fit for all purposes, both of pasture and tillage, extending towards the thickwood hills, and also to be found in the region of the lakes between Forts Pitt and Edmonton.

In almost every direction round Edmonton the land is fine, excepting only the hilly country at the higher level, such as the Beaver Hills. Even there, however, there is nothing like sterility, only the surface is too much broken to be occupied while more

\* We have been on board American steamers while they have ascended rapids by means of an anchor at the head of the rapid, from which a rope is connected to a capstan on board, driven by the steamer's machinery, and were thus warped up the current.