

Fragmentary Leaves from the Geological Records OF THE GREAT NORTH WEST.

Notes of a Trip in the Far West. Description of the Prairie Steppes—The
Origin of Alkali—The Bow River Valley—Medicine Hat Coal Mines
Discovery of Extinct Reptiles, Etc.

At Thursday's meeting of the Historical and Scientific Society, Mr. J. H. Panton read his promised paper on "Places of Geological Interest in the Northwest," as follows:

To-night I purpose placing before you for consideration the result of some geological investigations, which I have made during the past summer at interesting localities in the Northwest. In August of this year, through the kindness of the Canadian Pacific Railway, I, in company with several members of this society, had the pleasure of visiting the regions as far east as the track was then laid.

Before entering upon a description of places, fraught with considerable geological interest, I shall direct your attention to some general observations upon the vast tract of country between Winnipeg and Calgary, after which I shall treat more particularly of the various outcrops noted, and from which the fossils I have presented to the society have been obtained. Leaving Winnipeg and pursuing our journey westward we soon cross the

FIRST PRAIRIE STEPPE.

The Red River Valley, which at Emerson is 52 miles wide and gradually increases as you proceed north. It is about 800 miles above the sea level and embraces an area of 6,900 square miles. Throughout this level region a rich black soil abounds, overlaid in many places by layers of clay to a depth of 50 feet. Immediately below this apparently alluvial deposit is bluish limestone, which is well exposed in several places along the Red River, Long Mountain and the shores of Lake Winnipeg.

Beyond this region, distinguished for its almost inexhaustible fertility of soil, we cross the

SECOND PRAIRIE STEPPE.

This has an elevation of 1,600 feet above sea level, 250 miles wide at its

southern limit and narrowing slightly towards the north, it embraces an area of 10,500 square miles. This region differs in some respects from the former. The dark, rich soil is not so common, the surface is much more rolling, and the whole is underlaid by Cretaceous deposits. To some these physical characters, indicating a drier and warmer soil, have greater attractions than the level land of the Red River valley. Nothing of particular importance attracted our attention as we passed over this district, which, though containing much rolling land on the east side, passes into a level country westward.

THIRD PRAIRIE STEPPE.

In this great table land of the Northwest, extending from the western boundary of the last region to the Rocky Mountains, 465 miles wide on its southern boundary, with an elevation of 3,000 feet, there is an area of 134,000 square miles. As this possesses some features of more than ordinary interest, I shall direct your attention to it for a few moments. This district, while rolling in character, has also much prairie land. Here vast coal fields are found among the Cretaceous deposits, and in this region many of the lakes and ponds are strongly alkaline.

At the time of my visit this region indicated drought, but did not present that desert appearance I had anticipated from the reports of some who had described it. Although there are some parts comparatively sandy, yet there are vast areas of good soil, immeasurably better than many places which are now under cultivation in the eastern provinces. The soil seems sufficiently fertile, but the climate, owing to a limited rainfall, may be at fault. The problem which requires solution in this part of the Northwest, is to what extent can the rainfall of a country be modified or increased by ordinary cultivation and the planting of trees?