

fraught with a great future to the inhabitants of Manitoba.

SECOND PRAIRIE STEPPE.

Following upon the first, the Second Steppe appears with an elevation of 1,600 feet, 250 miles wide at its southern limit and narrowing slightly towards the north.

Within this vast area, are 10,500 square miles of land, more rolling in its character than the preceding district, but also containing vast stretches of prairie land.

The deposits here differ from those of the first steppe, both regarding age and nature. Silurian strata immediately underlie the silty material of the Red River Valley, while throughout this region Cretaceous outcrops belonging to a period of much later date occur. Great stretches of arable land here too, lie spread before us, affording ample room for millions of pioneers ready to possess the land.

In the prolific fields of these extensive acres, industry and economy cannot fail to meet with enviable success to those who are now joining in the advancing tide of settlers across their boundless plains.

THIRD PRAIRIE STEPPE.

Crossing our plains we finally reach the third great table land of the North West, 465 miles wide on the forty-ninth parallel with an elevation of 3000 feet. It embraces an area of 131,000 square miles.

In this immense area lie our vast coal fields, so extensive that the term *Lignite Tertiary Plateau* has been applied to the region. Nearly all of the coal exposures referred to as occurring in the North West, are found in this district. As further investigations are made concerning the nature and extent of this coal bearing strata, it will be found that plenty of fuel will be supplied with but little difficulty to the future occupants of the treeless prairie land to the east.

Besides the great coal deposits of incalculable value. Vast stretches of heavily wooded districts, belts of arable land and rich pasture areas, occur throughout the region.

As this great scene sweeps before us, shewing in succession these marked natural steps, each full of interest sufficient to supply material for a long paper, we can perceive what an attractive country this is to the enthusiastic student of nature. The rich ores of the Laurentian rocks eastward, just being unearthed are attracting thousands to seek the hitherto hidden treasures of that place. The lands of almost exhaustless fertility in the Red River Valley are rapidly being occupied. The rolling districts of the second plateau with drier and warmer soil, are eagerly sought after by the practical agriculturist. While the Third Steppe with an inexhaustible store of fuel, scarcely hidden beneath the surface, will not be less attractive as a supply to the inhabitants of woodless districts. But our work is confined to a narrower limit and our attention must be confined more particularly to some remarks on the geology of places less remote than those interesting regions to which reference has been made.

As the pioneer in our country wanders over the prairie, anxiously seeking for the surveyor's stakes, in order to enable him to locate his homestead, so we have been looking around for geological landmarks, which will enable us to ascertain our position in the series of geological strata.

Our rich alluvial soil has supplied some information, but it was not until we had ascertained the depth and nature of drift material below us, and the character of the rock over which it has been spread in ages long receded into the past, that we have been able to open the stony records at the proper place, and ascertain our relation to the past.

It is a recognized fact, that the earth's crust is composed of many layers.

These are grouped into Formations known by certain names, which are often taken from the locality where the formation is well represented, as Trenton, Hudson River, Devonian, or it may be from the nature of the rock, as Red Sandstone Gypsiferous, etc. The formations have their characteristic fossils, consequently when we find these we can arrive at a