

way's track is built, was perfectly dry. That this was an exceptionally dry year, was shown by the enormous numbers of dead shells of *Limnea*, *Planorbis*, *Physa* and other genera, which, everywhere, rendered the ground crisp under the tread of the foot. The ground was covered by a heavy growth of grasses of three or four species, scattered everywhere in great patches, each grass occupying its own patches to the exclusion of the other grasses. The soil is a heavy black loam, and the surrounding circumstances all clearly show how such soils have been formed in the valleys of the Lower Assiniboine and of the Red River, and around Lake Manitoba, by the annual decay of such marsh grasses.

To the westward of the Big Grass Marsh and the Westbourne Marsh, circumstances are changed. The country, after leaving the gravel ridges which strike the line of the Manitoba and Northwestern Railway at Arden, becomes of a slightly rolling character, and increasingly so some distance farther westward. As Neepawa is approached, the surface loam is underlaid by sand. Boulders become exposed in the river valley at Minnedosa and in the side valleys leading into it—washed out, no doubt, from the drift clays which at a greater or less depth underlie the surface soil. At Birtle, the Laurentian boulders are not only common in the deep valleys, especially on the eastern side, of the Bird Tail and of Snake Creek,—appearing in almost a solid mass of both large and small boulders at one point at the creek level near Birtle—but are also on the surface of the prairie above. They are in the latter case, generally more common in and upon the surface of the low ridges which here and there somewhat parallel each other. Proceeding still westward, boulders are not frequent in the valley of the Assiniboine River at Fort Ellice and at the railway crossing eighteen miles up the stream, but the bed of the river at the ford is formed entirely of very large sized gravel. Nor do boulders appear again until the country beyond Langenburg is reached. Here there are two or three gravelly knolls rising twenty-five or thirty feet above the general level, like the Spy Hills, also gravelly knolls,