

CHAPTER II.

GEOLOGY.

The main geological features of the central and western portion of the Dominion having already been alluded to in connection with its physical structure, it remains now merely to present in such synoptical form as may serve to explain the accompanying map, a systematic outline of its component formations.

The eastern margin of the great interior continental basin is composed of Silurian and Devonian rocks, which, resting almost horizontally on the upturned edges of the Laurentian and Huronian, form a belt of varying width which appears to extend from Minnesota to the shores of the Arctic Sea. Prof. Hind has recognized the Chazy formation on Lake Winnipeg, while in Manitoba and Winnipegosis Lakes Devonian rocks occur, and it is probable that the intervening formations will be found to be extensively developed in the Lake Winnipeg region as it is more fully examined. Fossils obtained at East Selkirk, on the Red River, have enabled Mr. Whiteaves to fix the horizon of the rocks at that place as that of the Galena limestones of the west, equivalent to the Utica shales. Similar beds are found in Stony Mountain, near Winnipeg, but appear there to pass up into the Hudson River formation.

The Cambro-Silurian and Devonian rocks of the Red River and Winnipeg Lake region, are for the most part pale grey or buff-coloured magnesian limestones. From Methy Portage northward, according to Sir J. Richardson's observations and from collections made by Mr. Kennicott, it would appear that Devonian rocks constitute almost the entire width of the Palaeozoic belt. They appear on the Clearwater and Athabasca Rivers as bituminous limestones and shales, which are referred by Meek, from their fossils, to the Hamilton and Genesee formations. In this region these rocks yield large quantities of petroleum, which, exuding from them, saturates the overlying superficial materials and gives rise to "tar springs" along the tracks of the river. Salt springs also occur, and these are found to characterize the Devonian rocks southward to Red River, though no indications of petroleum have yet been observed south of Methy Portage.

The limits of the present sketch will not permit any detailed description of the Cretaceous and Tertiary rocks which characterize the entire breadth of the interior continental region from the belt of Cambro-Silurian and Devonian limestones last noticed, to the eastern edge of the Cordillera belt. These rocks, however, correspond in their