

widespread, and homogeneous general character, to the uniformity of the great plains which they underlie, and may be characterized in a few words.

North of the 49th parallel, the Systems represented—so far as at present known—are the Cretaceous and Tertiary, with the intervening Cretaceo-Tertiary Laramie series, Laramie and Miocene. In the eastern portion of the region, the Cretaceous—owing to the mantle of glacial deposits, is generally poorly exposed, but appears to resemble very closely the strata of the same age, studied by Messrs. Meek and Hayden on the Missouri in the corresponding portion of the Western States. The following is Messrs. Meek and Hayden's general section, the series being arranged in descending order:—

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No. 5. <i>Fox Hill Beds</i> .—Grey, ferruginous and yellowish sandstones and arenaceous clays. <i>Marine Shells</i>	500
No. 4. <i>Fort Pierre Group</i> .—Dark-grey and bluish plastic clays. <i>Marine shells, gypsum and fish remains</i>	700
No. 3. <i>Niobrara Group</i> .—Calcareous marls. <i>Marine shells, fish remains, foraminifera, &c.</i>	200
No. 2. <i>Fort Benton Group</i> .—Dark-grey laminated clays, with some limestone. <i>Marine shells</i>	300
No. 1. <i>Dakota Group</i> .—Yellowish, reddish and whitish sandstones and clay, with occasional lignites. <i>Marine and some fresh-water shells and angiospermous leaves</i>	400

Of the lowest or Dakota group, no rocks have yet been clearly recognised in our region. The Benton group is stated by Prof. Hind to occur on the Saskatchewan near Fort à la Corne, but this is the only locality in the eastern portion of the region where it is supposed to occur. Shales, probably of this age, occur at the base of the section in the vicinity of the Upper Milk River, and they are pretty extensively developed on the Peace River, where they have been called the Fort St. John group. They also come to the surface in the disturbed foot-hill country at the base of the Rocky Mountains.

Beds of the age of the Niobrara or third division of the Cretaceous of Messrs. Meek and Hayden, occur in the escarpment of Pembina Mountain, west of the Red River Valley, on the Boyne River. They are also probably shown on the Assiniboine, and have again been recognized on Swan River, west of Manitoba Lake. Their character in these places closely corresponds with that found in the typical section above referred to, the beds being largely calcareous and marly, and repeating to some extent the character of the chalk of the old world. Further west no beds have been distinctly recognised as referable to the Niobrara, though it is probable that the Belly River and Dunvegan series, subsequently referred to, are nearly on this horizon.