

distributed; and these show that further subsidence or denudation in the north had opened a way for the arctic currents, killing out the warm-water animals of the Niobrara group, and filling up the Mediterranean of that period. Of the flora of these Upper Cretaceous periods, which must have been very long, we know something in the interior regions, from the discovery of a somewhat rich flora in the Dunvegan beds of the Peace River district, on the northern shore of the great Cretaceous Mediterranean;* and on the coast of British Columbia we have the remarkable Cretaceous coal-field of Vancouver Island, which holds the remains of plants of modern genera, and, indeed, of almost as modern aspect as those of the so-called Miocene of Greenland. They indicate, however, a warmer climate as then prevalent on the Pacific coast, and in this respect correspond with a peculiar transition flora, intermediate between the Cretaceous and Eocene or earliest Tertiary of the interior regions, and which is described by Lesquereux as the Lower Lignitic.

Immediately above these Upper Cretaceous beds we have the great Lignite Tertiary of the West—the Laramie group of recent American reports—abounding in fossil plants, at one time regarded as Miocene, but now known to be Lower Eocene, though farther south extending upward toward the Miocene age.† These beds, with their characteristic plants, have been traced into the British territory north of the forty-ninth parallel, and it has been shown that their fossils are identical with those of the

* "Reports of Dr. G. M. Dawson, Geological Survey of Canada." Also, "Transactions of the Royal Society of Canada," vol. i.

† Lesquereux's "Tertiary Flora"; "White on the Laramie Group"; Stevenson, "Geological Relations of Lignitic Groups," American Philosophical Society, June, 1875; Dawson, "Transactions of the Royal Society of Canada," vol. iv.; Ward, "Bulletin of United States Geological Survey."