of the Upper Cretaceous had again given place to the warm plains and land-locked brackish seas or fresh-water lakes of the Laramie period (Eocene). Thus the true Upper Cretaceous marks a cool period intervening between the so-called Upper Cretaceous (really Middle Cretaceous) and the so-called Miocene (really Lower Eocene) floras of Greenland.

This latter established itself in Greenland, and probably all around the Arctic circle, in the warm period of the earliest Eocene, and, as the climate of the northern hemisphere became gradually reduced from that time till the end of the Pliocene, it marched on over both continents to the southward, chased behind by the modern arctic flora, and eventually by the frost and snow of the Glacial age. This history may admit of correction in details; but, so far as present knowledge extends, it is in the main not far from the truth.

Perhaps the first great question which it raises is that as to the causes of the alternations of warm and cold climates in the north, apparently demanded by the vicissitudes of the vegetable kingdom. Here we may set aside the idea that in former times plants were suited to endure greater cold than at present. It is true that some of the fossil Greenland plants are of unknown genera, and many are species new to us; but we are on the whole safe in affirming that they must have required conditions similar to those necessary to their modern representatives, except within such limits as we now find to hold in similar cases among existing plants. Still we know that at the present time many species found in the equable climate of England will not live in Canada, though species to all appearance similar in structure are native here. There is also some reason to suppose that species when new may have greater hardiness and adaptability than when in old age and verging toward extinction. In any case these facts can account for but a small part of the phenomena, which