

1.—*On the Mesozoic Floras of the Rocky Mountain Region of Canada.**By* SIR J. WILLIAM DAWSON, C.M.G., LL.D., F.R.S.

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In a paper read before this Society in 1883, and published in the first volume of its Transactions, I noticed the Cretaceous and Tertiary floras of British Columbia and the Northwest Territories, known up to that time, and described the new species which they had afforded. The lowest Cretaceous flora, that of the Queen Charlotte Islands, has a strictly Mesozoic aspect and affords no Dicotyledonous plants. That of the Dunvegan group on Peace River, on the contrary, abounds in Dicotyledons, and may be regarded as a Middle Cretaceous flora of the age of the Niobrara group or Cenomanian, and is warm-temperate or sub-tropical. The assemblage of plants associated with the coal beds of Vancouver is distinctly Upper Cretaceous, and in its generic forms has a very modern aspect and a decidedly warm-temperate character. A still newer flora is that of the Laramie series, which may be regarded as a transition group connecting the Upper Cretaceous with the Eocene, and is still warm-temperate in its aspect, though differing in its specific, and to some extent in its generic forms.

The material at that time in my hands showed nothing from the Rocky Mountain region certainly Lower Cretaceous, and nothing between the Queen Charlotte series and that of Peace River to fill up the great gap separating these very distinct groups of plants, except a small collection from Saskwa River and Willow Creek, containing the species which I named *Dioonites borealis*, *Pinus Saskawensis* and *Laurus crassineris*. These I believed to indicate an horizon lower than that of the Dunvegan group of Peace River, but this could not at the time be regarded as certain.

In the past summer considerable collections have been made by Dr. G. M. Dawson, from troughs of Mesozoic rocks included in the older formations of the Rockies, and which show the existence there of a series of fossil plants whose affinities with those of other regions would entitle them to be called Jurassic-Cretaceous. They consist of ferns, cycads and conifers, some of them identical with, or closely allied to, those of the Jurassic of the Amur country in Siberia, and others similarly related to those of the Lower Cretaceous of Greenland, as these floras have been described by Heer. This group, undoubtedly, represents the flora of the Lowest Cretaceous, which has not hitherto been recognized in Western America, and will form a sure basis from which to trace the development of the vegetable kingdom upward to its more modern forms. Unfortunately, a considerable thickness of beds overlying those holding these more ancient plants, has afforded no fossils, and the next beds in ascending order which afford plants contain, in addition to survivors of the older flora, a few new forms belonging to the Dicotyledo-