SYNOPSIS OF THE GEOLOGY OF CANADA

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ity of Bear River and Nictaux where it consists for the most part of dark gray and green and brown shales or reddish sandstone or arenaceous limestones, considerably squeezed and altered, constituting the Bear river formation. Pleurodictyum problematicum is one of the characteristic species of this horizon which is evidently lower or Eo-Devonian. The Devonian period in this province must have been one of extreme volcanic activity. It is most probable that the large areas of intrusive granites of the South mountain and other elevations along the main axis of Nova Scotia were thrown up during this period. Along McArras's brook, in Antigonish county, an extensive series of red shales and marks associated with tufaceous bands and grits appear to be shallow water and terrigenous in origin, and carry a fauna which in facies resembles that of Hereford, Eng., and the island of Spitzbergen. The presence of Ostracoderm and Cephalaspidian tishes indicate a horizon either at the base of the Devonian or the very summit of the (Upper) Silurian. This series of strata is designated as the Knoydart formation, and is a North American outcrop of the Lower or "Old Red sandstone" and Cornstone of Europe.

Devonian strata appear on the north side of White Bay, Newfoundland, which resemble in general character the Gaspé sandstones.

In Nova Scotia, lying unconformably underneath the limestones and gypsums of the province are found several thousand feet of stratified sandstones and shales, which carry a fauna and flora, whose affinities would place them within the Carboniferous system. This underlying series which constitutes the Union and Riversdale formations, has been classified as Devonian by a number of geologists. These strata correspond, in their taxonomic relations, to the Mispec and Lancaster formations of New Brunswick, consisting of red slates, conglomerates, and black shales, etc. From the internal palaeontological evidence obtained during the last five years in rocks of this age, both in Nova Scotia and New Brunswick, the writer is constrained to place these series both from Nova Scotia and New Brunswick in the Carboniferous system. The Riversdale formation of Nova Scotia was placed in the Meso-carboniferous (Millstone Grit) by Sir William Dawson. Dr. D. White and Mr. R. Kidston recently place the Lancaster and Riversdale floras in the middle and Upper Carboniferous of America and Europe, respectively.

In Rocky Brook, Nashwaak, as well as on the Little Pokiok creek, along the Beccaguimic valley, N.B., strata, which appear to belong to the early or Eo-Devonian have been traced by Prof. Bailey, and Mr. C. Robb, whilst at Campbellton, along the Baic de Chaleurs coast, certain volcanic ash-beds carrying fish remains described by Dr. Whiteaves and Prof. Traquair are classed here as the *Campbellton* formation in the Eo-

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