

ginning of the Upper Silurian, or even as low as the Hudson River group, and Hicks has found *Nematophyton* and *Psilophyton* in beds about as old in Wales, along with the uncertain stems named *Berwynia*. In the Lower Silurian the *Protannularia* of the Skiddaw series in England may represent a land-plant, but this is uncertain, and no similar species has been found in Canada.

The Cambrian rocks are so far barren of land-plants; the so-called *Eophyton* being evidently nothing but markings, probably produced by crustaceans and other aquatic animals. In the still older Laurentian the abundant beds of graphite probably indicate the existence of plants, but whether aquatic or terrestrial it is impossible to decide at present.

It would thus appear that our certain knowledge of land-vegetation begins with the Upper Silurian or the Silurio-Cambrian, and that its earliest forms were Acrogens allied to Lycopods, and prototypal trees, forerunners of the Acrogens or the gymnosperms. In the Lower Devonian little advance is made. In the Middle Devonian this meagre flora had been replaced by one rivalling that of the Carboniferous, and including pines, tree-ferns, and arboreal forms of Lycopods and of equisetaceous plants, as well as numerous herbaceous plants. At the close of the Erian the flora again became meagre, and continued so in the Lower Carboniferous. It again became rich and varied in the Middle Carboniferous, to decay in the succeeding Permian.

## II.—HEER'S LATEST RESULTS IN THE GREENLAND FLORA.

A VERY valuable report of Prof. Steenstrup, published in Copenhagen in 1883, the year in which Heer died, contains the results of his last work on the Greenland plants, and is so important that a summary of its contents will be interesting to all students of fossil botany or of the vicissitudes of climate which the earth has undergone.\*

The plant-bearing beds of Greenland are as follows, in ascending order:

### 1. CRETACEOUS.

1. The *Komé* series, of black shales resting on the Laurentian gneiss. These beds are found at various other localities, but the

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\* Meddelelser om Gronland, Hefte V., Copenhagen, 1883.