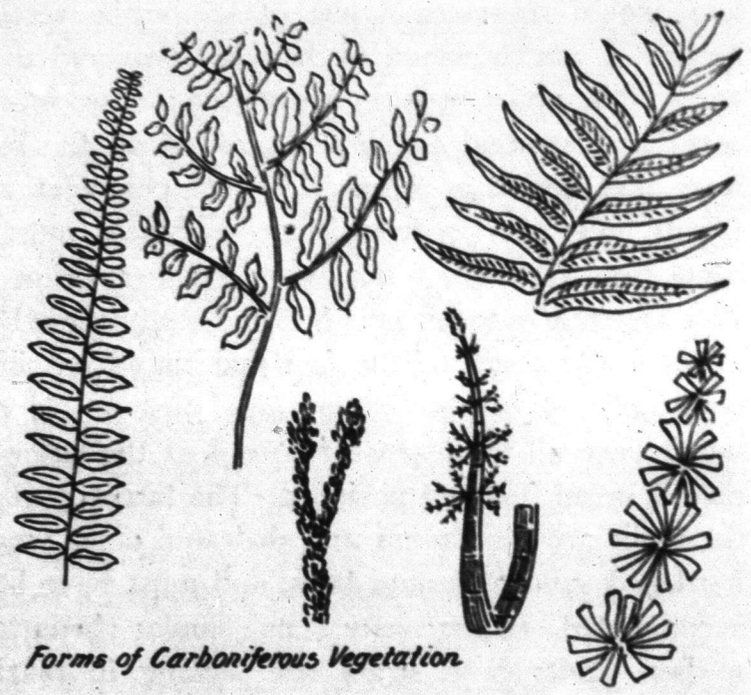
mosses, equiseta, etc., together with conifers, and flourished under conditions which must have been semi-tropical. The remains of these plants are found in large numbers in the rocks accompanying the coal seams and often beautifully preserved.



Forms of Carboniferous Vegetation

They may readily be collected at any coal mine, as in New Brunswick at Minto and elsewhere around Grand Lake, at Coal Creek in Kent and at Stonehaven in Gloucester, or in Nova Scotia at the Joggins, Spring Hill, Pictou or Sydney.

At the Joggins, in addition to ferns and rush like plants (calamites) one can see stumps of trees still standing in their natural position at right angles to the enclosing beds, and from one of these the late Sir Wm. Dawson obtained the remains of a reptile of considerable size which probably took refuge there as the waters spread around and eventually engulfed it. In many respects the conditions prevailing were similar to those of the Great Dismal swamp in North Carolina or that of certain tropical jungles at the present day—that of great areas of low swampy lands covered with dense forests of conifers, with an undergrowth of luxuriant ferns, lycopods and equiseta, and tenanted by amphibian and other reptiles—areas subject to periodical overflow from river inundations and gradually subsiding as rock layer after rock layer was deposited and forest after forest spread over them, each in turn to be buried and stored away to serve the future uses of the human race. In the Joggins section, as has been stated, not less than seventy-six of these old forests are represented, one above another, and as each must have taken a considerable time for its growth and burial, (one foot of coal representing from six to seven feet of vegetable matter, and some coal seams in Cape Breton being thirty feet or more in thickness) a very simple calculation will indicate how vast was the period during which these processes went on.

The rocks of the carboniferous or coal era cover a large area in New Brunswick including most of the central counties and considerable portions of the southern ones, but the formation is thin and the coal seams inconsiderable, the largest, that of the Grand Lake area, attaining a thickness of less than three feet. In Nova Scotia, with a much less superficial area, they have an enormous thickness and include coal seams of great importance. The beds of the first named Province, except along the Bay of Fundy, are nearly flat, while those of Nova Scotia are inclined and thrown into basin like form. The explanation of this difference is probably to be found in the fact that New Brunswick is a part of the mainland of the continent and therefore comparatively stable, while Nova Scotia is insular, is nearer to the Atlantic, and felt therefore more the pressure coming from the latter. This pressure and its results were a part of the great series of earth movements which in the United States resulted in the formation of the great Appalachian mountain system, stretching from New York to Alabama, and which has been styled the Appalachian Revolution. The events which followed the latter will be the subject of consideration in later chapters of this series.

I should not omit to state here that while the Coal era was in general one of quiescence, marked only by such changes as would require centuries to make them evident, its earlier portion is remarkable for the indications of volcanic activity which then prevailed. Volcanic eruptions were frequent and have left their mark in the present configuration of the country. Bald Mountain, so called, near Fredericton, and McLeod's Hill on the Royal Road are nothing but the remains of old volcanic pipes; Bald Mountain and Cranberry Hill, around the base of which run the tracks of the C. P. R. just west of Harvey Station, are of similar origin; old volcanic lavas cover considerable areas in Hampstead and at the forks of the Newcastle River in Queens, and at other localities as well. Strange, is it not, to think that volcanic fires once raged over many parts of this quiet New Brunswick of ours. Yet the evidence is indisputable and only goes to show how many and how strange are the vicissitudes which mark its early history.