

## ACADIA AFTER THE COAL ERA.—VI.

BY L. W. BAILEY, L.L. D.

The Appalachian Revolution, referred to in the last chapter, was the closing event of Palæozoic time. In connection with or as a consequence of it America in its eastern half became comparatively stable, and subsequently, except along the sea-board, no deposits were formed to tell us anything of the conditions which prevailed in succeeding periods. But great events were in progress elsewhere. In America the theatre of growth and change was transferred to the west. The region beyond the Mississippi to the shores of the Pacific, which through the larger part of Palæozoic time was deeply buried beneath the sea, now rose slowly above it. With many oscillations upward and downward and with many changes in its geography the land gradually spread westward and southward; great lakes far exceeding in size the so called Great Lakes of today, occupied portions of its surface, and around these lakes extended vast forests, of higher types than those which constituted the Devonian and Carboniferous forests, beneath which roamed animals also of much higher type than had previously dwelt upon the earth—gigantic amphibians, huge reptiles, bird-like and bat-like forms and eventually many varieties of mammals, also of colossal proportions. The formations containing these remains are known as those of Mesozoic (or Mediæval) time and include two main subdivisions, viz., the Reptilian Age and the Mammalian Age, characterized respectively by the predominance of these two great groups of vertebrate life. Each age is further sub-divided into periods, such as the Trias or New Red Sandstone, the Jurassic and chalk formations, the Tertiary and Quaternary, each marked by its own peculiar features of physical conditions and by its own peculiar organic remains. During the latter part of the Cretaceous period also, and during the early Tertiary, came in another of those great epochs of disturbance and physical revolution which from that time broke the monotony of geological progress and which in this instance resulted in the production of the great western barrier of the continent, the Rocky Mountain or Cordilleran system. Coincident with this

elevation and as a consequence of it, the great lakes just referred to were to a considerable extent drained off or reduced to their modern proportions, great rivers, like the Colorado, cut down their channels to form stupendous canons, conditions of aridity replaced those of humidity, volcanic phenomena on a vast scale were brought into operation, and with the change in climatic and other physical conditions, came about also great changes in the character and distribution of life.

Similarly in the old world it was during these ages that the great chalk deposits of England, determining its poetic name of Albion, were produced; it was then that the great mountain chains of Southern Europe, the Pyrenees, the Alps, the Juras and Appenines were lifted to lofty heights, and that farther east, in Asia, the great range of the Himalayas was brought into being.

But of the vast lapse of time represented by these periods we find in Acadia, with a single exception, no trace, this fact being probably due to the further fact that the land then stood above the sea level, and that any deposits of fresh water or lacustrine origin which may have been formed upon its surface, and from which, if present, some conclusions might be drawn, have been wholly obliterated by causes to be hereafter described.

The exception to which reference has been made is based on facts to be observed in and about the Bay of Fundy.

I presume that many of my readers are familiar with the scenery of the Annapolis Valley, the "Garden of Nova Scotia." Its beautiful villages and hamlets, with its miles of apple orchards, are a delight to all who visit them. This extraordinary fertility is of course the result of the character of the soil beneath resulting from the decomposition of a series of bright red sandstones exposed at various points but which are especially noticeable on the shores of Minas Basin, about Digby, and again at the head of St. Mary's Bay, where they form a series of conspicuous bluffs. Those familiar with the valley will also recall the fact that throughout its length it is bordered on its northern side by a range of hills commonly known as the North Mountains, through which has been cut the entrance to Annapolis Basin at Digby Gut. It was of these peculiar relations