

vations were not always alike on the two sides of the Atlantic. The Salina period of the Silurian, for example, and the Jurassic, show continental elevation in America not shared by Europe. The great subsidences of the Cretaceous and the Eocene were proportionally deeper and wider on the eastern continent, and this and the direction of the land being from north to south, cause more ancient forms of life to survive in America. These elevations and submergences of the plateaus alternated with the periods of mountain-making plication, which was going on at intervals, at the close of the Eozoic, at the beginning of the Cambrian, at the close of the Siluro-Cambrian, in the Permian, and in Europe and Western America in the Tertiary. The series of changes, however, affecting all these areas was of a highly complex character in detail.¹

We may also note a fact which I have long ago insisted on,¹ the regular pulsation of the continental areas, giving us alternations in each great system of deep-sea and shallow-water beds, so that the successive groups of formations may be divided into triplets of shallow-water, deep-water, and shallow-water strata, alternating in each period. This law of succession applies more particularly to the formations of the continental plateaus, rather than to those of the ocean margins, and it shows that, intervening between the great movements of plication there were subsidences of those plateaus, or elevations of the sea bottom, which allowed the waters to spread themselves over all the inland spaces between the great folded mountain ranges of the Atlantic borders.

In referring to the ocean basins we should bear in mind that there are three of these in the northern hemisphere—the Arctic, the Pacific, and the Atlantic. De Rance has ably

thousand years ago, and was itself not of very great duration. Thus in Pleistocene times the land must have been submerged and re-elevated in a very rapid manner.

¹ "Acadian Geology."