

dantly on the higher levels. Nor was strictly aquatic vegetation wanting. We find, both in the preceding Devonian and the Carboniferous, that the little aquatic plants now known as Rhizocarps, and structurally allied to the Ferns—such plants as the floating *Salvinia*, and the Pillworts of our swamps, were vastly abundant, and they may have filled and choked up with their exuberant growth many of the lakes and slow streams of the period, furnishing layers of cannel and “macrospore” coal, and earthly bitumen or Torbanite.

We have hitherto confined our attention to the great Carboniferous period, so called, as emphatically the age of coal; but this mineral, and allied forms of carbon, were produced both before and after. Even in that old Laurentian age, which includes the oldest rocks that we know, formed when the first land had just risen out of the waters, there are thick beds of graphite, or plumbago, chemically the same with anthracite coal, and which must have been produced by the agency of plants, whether terrestrial or aquatic. We may suppose that the plants of this remote age were of very humble type as much lower than those of the coal formation as these are lower than those of the present day; but if so, then, on the analogy of the Carboniferous, they would be high and complex representatives of those low types. But there is another and more startling possibility; that the Laurentian may have been a period when vegetable life culminated on the earth, and existed in its most complete and grandest forms in advance of the time when it was brought into subordination to the higher life of the animal. In the meantime, the Laurentian rocks are in a state of so extreme metamorphism that they have afforded no certain indication of the forms or structures of the vegetation of the period.

We find indications of plant life through all the Palæozoic groups succeeding the Laurentian; but it is not till we reach the Devonian, the system immediately preceding the Carboni-