

ferous, that we find an abundance of forms not essentially different from those of the Carboniferous, though similar in details. Only a few and very small beds of coal were accumulated in this age; but there was an immense abundance of bituminous shale enriched with the macrospores of Rhizocarps. The Ohio black shale, which is said to extend its outcrop across that state with a breadth of ten to twenty miles, and a thickness of 550 feet, is filled with macrospores of Protosalvinia, as is its continuation in Canada.

Above the great coal formation the Permian and Jurassic contain beds of coal, though of limited extent, and formed in the case of the two latter of very different plants from those of the Carboniferous. In the Cretaceous and Tertiary ages, after the abundant introduction of species of forest trees still living, coal making seems to have obtained a new impulse, so that in China and the western part of America there are coals of great extent and value, all made of plants of genera still existing. In the Cretaceous coal of Vancouver Island there are remains of such modern trees as the Poplars, Magnolias, Palmettos, Sequoias, and a great variety of other genera still living in America. Out of the remains of these, under favouring conditions, quite as good coal as that of the coal formation has been made, although the plants are so different. There is, indeed, reason to believe that those now rare trees, the Sequoias, represented at the present time only by the big trees of California, and their companion, the redwood, were then spread universally over the northern hemisphere, and formed dense forests on swampy flats which led to the accumulation of coal beds in which the trunks and leaves of the Sequoias formed main ingredients, so that Sequoia and its allies in this later age take the place of the Sigillariæ of the coal formation. Last of all, coal accumulation is still going on in the Everglades of Florida, the dismal swamp of Virginia, and the peat-bogs of the more northern regions. So the vegetable kingdom