of that country are of small size, and may have been of low growth, so that they may have been protected by the snows of winter. The cycads have usually simple or unbranching stems, pinnate leaves borne in a crown at top, and fruits which, though somewhat various in structure and arrangement, are all of the simpler form of gymnospermous type. The stems are exogenous in structure, but with slender wood and thick bark, and barred tissue, or properly as tissue intermediate between this and the disc-bearing fibres of the pines.

Though the cycads have a considerable range of organisation and of fructification, and though some points in reference to the latter might assign them a higher place, on the whole they seem to occupy a lower position than the conifers or the cordaiteæ of the Carboniferous. In the Carboniferous some of the fern-like leaves assigned to the genus *Noeggerathia* have been shown by Stur and Weiss to have been gymnosperms, probably allied to cycads, of which they may be regarded at least as precursors. Thus the cycadean type does not really constitute an advance in grade of organisation in the Mesozoic, any further than that, in the period now in question, it becomes much more developed in number and variety of forms. But the conifers would seem to have had precedence of it for a long time in the Palæozoic, and it replaces in the Mesozoic the *Cordaites*, which in many respects excelled it in complexity.

The greater part of the cycads of the Mesozoic age would seem to have had short stems and to have constituted the undergrowth of woods in which conifers attained to greater height. An interesting case of this is the celebrated dirt-bed of the quarries of the Isle of Portland, long ago described by Dean Buckland. In this fossil soil trunks of pines, which must have attained to great height, are interspersed with the short, thick stems of cycads, of the genus named *Cycadoidea* by Buckland,