

In this period, also, we find the earliest representatives of the endogenous plants. It is true that some plants found in the coal-formation have been doubtfully referred to these, but the earliest certain examples would seem to be some bamboo-like and screw-pine-like plants occurring in the Jurassic rocks. Some of these are, it is true, doubtful forms, but of others there seems to be no question. The modern *Pandanus* or screw-pine of the tropical regions, which is not a pine, however, but a humble relation of the palms, is a stiffly branching tree, of a candelabra-like form, and with tufts of long leaves on its branches, and nuts or great hard berries for fruit, borne sometimes in large masses, and so protected as to admit of their drifting uninjured on the sea. The stems are supported by masses of aërial roots like those which strengthen the stems of tree-ferns. These structures and habits of growth fit the *Pandanus* for its especial habitat on the shores of tropical islands, to which its masses of nuts are drifted by the winds and currents, and on whose shores it can establish itself by the aid of its aërial roots.

Some plants referred to the cycads have proved veritable botanical puzzles. One of these, the *Williamsonia gigas* of the English oölite, originally discovered by my friend Dr. Williamson, and named by him *Zamia gigas*, a very tall and beautiful species, found in rocks of this age in various parts of Europe, has been claimed by Saporta for the Endogens, as a plant allied to *Pandanus*. Some other botanists have supposed the flowers and fruits to be parasites on other plants, like the modern *Rafflesia* of Sumatra, but it is possible that after all it may prove to have been an aberrant cycad.

The tree-palms are not found earlier than the Middle Cretaceous, where we shall notice them in the next chapter. In like manner, though a few Angiosperms occur in rocks believed to be Lower or Lower Middle Cretaceous in Greenland and the northwest territory of Canada, and