

and complicated stems belonged to higher and nobler types of mare's-tails than those of the modern world, and that their fructification was equisetaceous and of the form known as *Calamostachys*.

We have already seen that noble tree-ferns existed in the Erian period, and these were continued, and their number and variety greatly extended, in the Carboniferous. In regard to the structure of their stems, and the method of supporting these by aërial roots, the tree-ferns of all ages have been nearly alike, and the form and structure of the leaves, except in some comparatively rare and exceptional types, has also been much the same. Any ordinary observer examining a collection of coal-formation ferns recognises at once their kinship to the familiar brackens of our own time. Their fructification is, unfortunately, rarely preserved, so that we are not able, in the case of many species, to speak confidently of

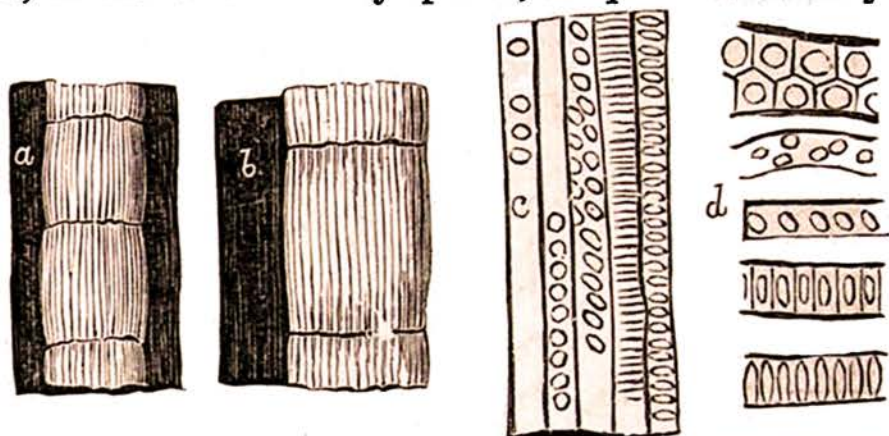


FIG. 50.—Stems of *Calamodendron* and tissues magnified (Nova Scotia).
a, b, Casts of axis in sandstone, with woody envelope (reduced).
c, d, Woody tissue (highly magnified).

their affinities with modern forms; but the knowledge of this subject has been constantly extending, and a sufficient amount of information has been obtained to enable us to say something as to their probable relationships. (Figs. 51 to 55.)

The families into which modern ferns are divided are, it must be confessed, somewhat artificial, and in the case