

Lepidodendra with the *Sigillariæ* of the *Favularia*-type. On the other hand, as already stated under *Sigillaria*, the ribbed *Sigillariæ* may be related through *Ormoxyylon* and *Dadoxylon* to the modern Conifers, and the *Favulariæ* may be related to the Cycads. This relationship may be expressed as follows:—

Cycadaceæ.

Favularia ?

Coniferæ.

Dadoxylon.

Palæoxylon.

Ormoxyylon †.

Dictyoxyylon.

SIGILLARIA.

Rhytidolepis.

Calamodendron.

Favularia ?

Calamopitrus.

Clathraria.

Bornia.

Syringodendron.

Calamites.

Lepidophloios.

Equisetaceæ.

Lepidodendron *.

Lycopodiaceæ.

I do not give this Table with any view to theories of derivation, but merely as an expression of probable affinities among these very curious and ancient types of vegetation.

I may add here a few words with reference to *Sphenophyllum*, a genus which some authors unite with *Calamites*. The verticillate, cuneate, veiny leaves of this plant, and its spikes of fructification have long been known; and in 1865 I was enabled by a specimen in the collection of Sir W. E. Logan to determine the structure of its stem, which contains a slender axis of reticulato-scalariform vessels of the type of those in *Thesipteris* ‡. These plants obviously had no connexion with *Calamites* or *Calamodendron*, but constitute a peculiar synthetic type, presenting points of resemblance to Ferns and Marsiliaceæ.

In conclusion, and with reference to my former papers on the "Structures in Coal," I would repeat the statement made in those papers, that the tissues of *Sigillaria*, as defined in this paper, and of *Calamodendron* enter more largely than any others into the composition of the mineral charcoal, and other parts retaining structure, of the coal of Nova Scotia; and I have reason to believe that similar tissues are at least very abundant in the coal of this country.

Supplementary Note.—Owing to the delay in the publication of the above paper, it is necessary to add the following statements:—

(1) Prof. Williamson has described another type of Calamitean stem, which he regards as intermediate between his *Calamopitrus* and *Calamodendron* §, but which has the *reticulated* or *multiporous* vessels of the former. To Prof. Williamson is due the credit of recognizing this structure for the first time in English specimens, though, as above

* Including *Sagcnaria*.

† Dawson, MS.

‡ Quart. Journ. Geol. Society, May 1866.

§ Manchester Lit. and Phil. Soc. Proceedings, 1870.