

terized, not only by peculiarities in their fructification (as *Gymnospermous phanerogamiæ*),\* but also by certain remarkable arrangements in the structure of their wood, whereby the smallest fragment may be identified.

Recent microscopic examinations of fossil woods have led to the recognition of an internal structure, resembling that of existing Coniferæ, in the trunks of large trees, both in the Carboniferous series,† and throughout the Secondary formations;‡ and M. Ad. Brongniart has enu-

\* We owe to Mr. Brown, the important discovery, that Coniferæ and Cycadææ are the only two families of plants that have their seeds originally naked, and not enclosed within an Ovary. (see Appendix to Captain King's Voyage to Australia). They have for this reason been arranged in a distinct order, as *Gymnospermous Phanerogamiæ*. This peculiarity in the Ovulum is accompanied throughout both these families, by peculiarities in the internal structure of their stems, in which they differ from almost all dicotyledonous plants, and in some respects also from each other.

The recognition of these peculiar characters in the structure of the stem, is especially important to the Geological Botanist, because the stems of plants are often the only parts which are found preserved in a fossil state.

† The occurrence of large coniferous trees in strata of the great Coal formation, was first announced in Mr. Witham's Fossil Vegetables, 1831. It was here stated that the higher and more complex organizations of Coniferæ exist in the Coal fields of Edinburgh and Newcastle, in strata which till lately have been supposed to contain only the simpler forms of vegetable structure.

‡ In the lower region of the Secondary strata, M. Ad. Brongniart has enumerated, among the fossil plants of the New red