

petioles or leaf-stalks (as on the stalk of a cabbage,) afford important evidence, since they are very commonly present even when the cylindrical trunk is compressed into a flat thin layer of coal; as we shall often have occasion to remark. In this place it need only be stated, that by these scars may be detected the position of the leaves, and the form of their bases; their probable direction, whether they were opposite, alternate, verticillate, or spirally disposed, deciduous or persistent, imbricated or remote. Even when no traces of the leaves remain, the origin of the branches, and their bifurcation may perhaps be determinable.

2. *The Leaves.*—In a fossil state the texture and surface of the leaves are sometimes preserved; but in general the outline of the leaf, its division and arrangement, and its mode of venation, can alone be ascertained. The *venation*, that is, the form and distribution of the vascular tissue, or vessels, through the leaf, is the most important character for our guidance; and Dr. Lindley offers the following suggestions on this point. If the veins be all parallel, not branched, or only connected by little transverse bars, and the leaves undivided (as in the lily or hyacinth), the plant was probably endogenous; but if the leaf be divided or pinnated, it may be referable to cycadeæ (*Lign.* 36 and 37.).

Leaves having the veins of equal, or nearly equal thickness, and dichotomous (*forked*), or very fine,