

and simply divided, belong to the fern tribe; to this division an immense proportion of the foliage found in the carboniferous strata is referable; the genera of fossil ferns have been constructed principally from the venation.

If the veins of a leaf be obviously of unequal thickness, and reticulated, or disposed in net-like meshes, as in the rose and apple, the original was dicotyledonous (Plate. III. figs. 4, 8.).

Leaves of a large size, and having no veins, and irregularly divided, probably belong to fuci, or other marine plants (*Lign.* 5.).

Such are the rules for the investigation and interpretation of the characters of the stems and foliage, which have been preserved by mineralization. Their application is not difficult, and the student may by their assistance obtain some general indications as to the nature of the original tree or plant, whose petrified remains form the subject of his examination.

ON THE MICROSCOPICAL EXAMINATION OF FOSSIL VEGETABLES.

Mr. Nicol, who first suggested the method now generally adopted for preparing fossil wood, coal, &c. for microscopical examination, and which was employed by Mr. Witham in the illustrations of his beautiful work on the structure of fossil plants,*

* Observations on Fossil Vegetables. 4to. 1833.