

stitute a *pistillum*; and finally, the gorging of the pistillum with fluid which it cannot part with, causes the production of a *fruit*.”\*

The “crude fluid sent up from the roots” of plants, or their *sap*, as it is termed, is found to consist of water, mucilage, and sugar; with some minute portions of other matters, generally saline. Though, under certain circumstances, moisture is absorbed by the leaves of all plants, yet there can be no doubt that a great part of their nourishment enters by their roots; not, however, by the whole root indiscriminately: the nourishment of plants is taken up chiefly by the minute fibrous parts termed *spongioles*. Hence, these minute fibrous parts are of the utmost importance in the vegetable economy, and ought to be carefully preserved in transplantation; otherwise the plant will certainly perish. In some instances, roots appear to be intended to act as reservoirs of nourishment for the support of the plants of the succeeding year, on their first development. There are such roots in the *Orchis* and *Dahlia* tribes, and in others. Of late it seems to have been satisfactorily established, that the roots of all plants, besides imbibing nourishment, perform also an excretory office; and that in the soil in which plants grow, there are deposited by the roots, certain matters of an

\* Introduction to Botany, p. 216.