

The soil is also the source whence plants derive their saline, earthy, and metallic ingredients. The silica they often contain is, in like manner, conveyed to them by the water, which it is now well ascertained, by the researches of Berzilius, is capable of dissolving a very minute quantity of this dense and hard substance. It is evident that, however small this quantity may be, if it continue to accumulate in the plant, it may in time constitute the whole amount of that which is found to be so copiously deposited on the surface, or collected in the interior of many plants, such as the bamboo, and various species of grasses. The small degree of solubility of many substances thus required for the construction of the solid vegetable fabric, is, probably, one of the reasons why plants require so large a supply of water for their subsistence.

§ 2. *Absorption of Nutriment by Plants.*

THE greater number of cellular plants absorb water with nearly equal facility from every part of their surface: this is the case with the *Algæ*, for instance, which are aquatic plants. In *Lichens*, on the other hand, absorption takes place more partially; but the particular parts of the surface where it occurs are not constantly the same, and appear to be determined more by mechanical causes than by any peculiarity of structure: some, however, are found to be provided in certain parts of the surface with stomata, which De Candelolle supposes may act as sucking orifices. Many mushrooms appear to be capable of absorbing fluids from all parts of their surface indiscriminately; and some species, again, are furnished at their base with a kind of radical fibrils for that purpose.

In plants having a vascular structure, which is the case with by far the greater number, the roots are the special organs to which this office of absorbing nourishment is assigned; but it occasionally happens that, under certain circumstances, the leaves, or the stems of plants are found to absorb mois-