

The juice (or what is vulgarly called the sap), having thus gone its stage from the root to the remotest branches, and having, in every part of its progress, deposited something both for ailment and for defence, what is redundant passes out into the bark, the vessels whereof are inosculated with those wherein the sap mounted; and through these it re-descends to the root, and thence to the earth again; and thus a circulation is effected.

The third and last part of the theory of vegetation, is a true knowledge of the vegetative principle, or that which is the immediate matter of the growth or increase of the plant. 'Tis certain this is a juice furnished by the earth, and imbibed by the absorbent vessels in the roots of the plant; this is circulated through the substance of the plant, and, in part, is assimilated thereto; and thus by the constant addition of new matter in every circulation, the plant is made to grow or increase its bulk; but more particularly, originating as follows:—

This nutritious juice is imbibed from the earth, and therefore must contain some fossil parts, other parts derived from air and rain, and others from putrefied plants and animals, &c., and consequently in vegetables are contained all kinds of salts, oil, water, &c., if not mineral particles too. This juice enters the root in form of a fine and subtile water.

THE STATE OF THE SAP IN ITS DIFFERENT STAGES OF CIRCULATION.

In the root then it is earthy, watery, acid, poor, and scarce oleaginous at all. In the trunk and branches it is further prepared, though it still continues acid. In the germs or buds it is more concocted, and, entering the vessels of the leaves, causes them to unfold and shew themselves. From hence it proceeds to the leaves of the flower, where it is still further digested; these transmitted to a greater degree of fineness to the stamina; these again to the farina or dust in the apices, where, having undergone a further maturation, it is shed into the pistil or style, which receives it in the manner of a womb, where it acquires its last perfection, fecundates the seed, and gives rise to a new plant.

The sap in plants performs the same office as the blood in animals, viz., to be a vehicle to convey the food or aliment to the