ate extensive cavities in the interior of the body, or penetrate through the interstices of a cellular tissue. That this latter is the mode of transmission adopted in the vegetable system has been considered probable, from the circumstance that the nutritious juices are diffused throughout those plants which contain no vessels whatsoever with the same facility as throughout those which possess vessels; from which it has been concluded that vessels are not absolutely necessary for the performance of this function. The nature of the forces which actuate the sap in its descent from the leaves, and its distribution to different parts, is involved in equal obscurity with the nature of the powers which contribute to its motion upwards along the stem, from the roots to the leaves. In endogenous plants the passage of the sap in its descent, is, in like manner, through those parts which have been latest formed; that is, through the innermost layers of their structure.

The returning sap, while traversing these several parts of the plant, deposites in each the particular materials which are requisite for their growth, and for their maintenance in a healthy condition. That portion which flows along the liber, not meeting with any ascending stream of fluid, descends without impediment to the roots, to the extension of which, after it has nourished the inner layer of bark, it particularly contributes: that portion, on the other hand, which descends along the alburnum, meets with the stream of ascending sap, which, during the day at least, is rising with considerable force. A certain mixture of these fluids probably now takes place, and new modifications are, in consequence, produced, which, from the intricacy of the chemical processes thus conducted in the inner recesses of vegetable organization, we are utterly baffled in our attempts to follow. All that we are permitted to see are the general results, namely, the gradual deposition of the materials of the future alburnum and liber. These materials are first deposited in the form of a layer of glutinous substance, termed the *Cambium;* a substance which appears to consist of the solid portion of the