

\* as has been inferred from seeing many of them grow vigorously which were entirely hollow, then it would seem, that, on a total stop being put to that channel of circulation, death would ensue as certainly, and almost as suddenly as by cutting the arteries of an animal. 85

Yet it has been observed, that early in the spring, before any thing like a leaf has been put forth, the vine particularly, and some forest trees, the sugar maple, &c., on a transverse incision being made into their wood pour forth a quantity of sap, which is always seen to proceed from the wood, and not from any layer near the bark; which shews that the vascular tissue of the stem, by some supposed to be mere dead wood, contributes largely, if not altogether, to supplying the plant with that portion of its nutriment which it certainly does, and must in a very great degree derive from the earth. And it is not uncommon to see forest trees, which in the winter or summer had been belted by a chop made all round into the wood of the trunk, near the ground, put out their usual amount of foliage in the following spring and sustain themselves during the year; which proves that there is a flow of sap through the wood of the trunk which contributes largely to the support of the vitality of the plant. In corroboration of this, it has been also observed, that besides the ordinary longitudinal vessels, there is what is called the silver grain, or medullary rays,

---

by striking with an axe, so as to cut through the bark and two or three of the outer layers of the wood. If one of those trees be examined, say twenty years after the marks were made, no traces of them will be discovered on the outside of the bark; nor, if we cut into the wood, will we find any on the nineteen outer layers; whilst we will find all the marks perfect in the twentieth layer, in which they were originally made; thus establishing the fact, that that layer has remained unaltered since its first formation, and that all the outer layers have been formed entirely independent of it. Good, in his *Book of Nature*, states, that in England, dates of very remote national eras, and the initials of monarchs who flourished in early times, have been found stamped in the very heart of the timber. M. Klien states, that in the year 1727, a long series of letters were discovered in the trunk of a full grown beech, near Dantzic. The letters were conspicuous in a layer about half way between the axis and the bark of the stem, whilst no traces of them could be discovered, either in the layers within, or on those without it. The same author mentions several other facts of the same kind. In one instance, the image of a thief hanging from a gibbet, was discovered in the timber of a beech tree, apparently drawn by nature's own pencil. In another tree, the figure of a crucified man was found in similar circumstances; and in another, a chalice, with a sword perpendicularly erect, sustaining a crown on its point. Such marks were formerly attributed to miraculous intervention, or regarded as miraculous sports of nature; and on this account, were preserved with peculiar care. When rightly understood, they place the truth of the above statement beyond a doubt."—*Essay on Vegetable Physiology*, by Armstrong, Prof., &c., Washington, Virginia, chap. 7; *The Farmers' Register*, by Ruffin, vol. 7, No. 4.