

pseudo acacia,) is finer in its grain than any of the oaks, and much harder, when seasoned, than any of them, except the live oak. The locust converts its sap into perfect wood every third year; which is not done by oaks in less than every tenth or fifteenth year; and at twenty-five years of age it yields twice the mass of wood of any other tree. 2 *Mich. Am. Sylva*. 11.

The eminent botanist who has given us the most full, accurate, and instructive account of all our forest trees, appears to have frequently adverted to this general opinion, that the concentric layers in the wood of such trees afforded evidence as well of their progress in vegetation as of their age. In speaking of the white cedar, (*cupressus thyoides*,) he says, that "the concentric circles are always perfectly distinct, even in stocks of considerable size, but their number and compactness prove that the tree arrives at its full growth only after a long lapse of years. I have counted two hundred and twenty-seven annual layers in a trunk twenty-one inches in diameter, and five feet from the ground; and forty-seven in a plant only eight inches thick at the surface, which proved it * to be already fifty years old. I was told that the swamp in which it grew had been burnt at least half a century before, and had been re-peopled from a few stocks that escaped the conflagration, or perhaps by the seeds of the preceding year." 2 *Mich. Am. Sylva*. 341. From which it would seem, that the number of the concentric circles in the young cedar being found to correspond so nearly with the known lapse of time within which it must have grown, after all the old ones had been destroyed, might have induced this botanist to speak of this fact as a corroboration of the general opinion; yet he merely states the circumstance and leaves the matter to the judgment of the reader. But in another place he has distinctly given us to understand, that however disposed to treat this opinion with respect, he himself had no great confidence in its correctness. In treating of the hemlock spruce, (*abies canadensis*,) he says, "The hemlock spruce is always larger and taller than the black spruce; it attains the height of seventy or eighty feet, with a circumference from six to nine feet, and uniform for two-thirds of its length. But if the number and distance of the concentric circles afford any certain criterion of the longevity of trees, and the rapidity of their vegetation, it must be nearly two centuries in acquiring such dimensions." 2 *Mich. Am. Sylva*. 318.(e)

The inferences deducible from the apparent number of concentric layers found in the trunk of a tree, upon an inspection of a

(e) "In a field of arid sandy loam, long under the usual cultivation, a piece of five or six acres was covered by a second growth of pines thirty-nine years old, as supposed from that number of rings being counted on some of the stumps. The largest trees were eighteen or twenty inches through." *Ruffin on Calcareous Manures*, chap. 13.