

We have still, however, much to learn before the conversion of fossil bodies into stone is fully understood. Some phenomena seem to imply that the mineralization must proceed with considerable rapidity, for stems of a soft and succulent character, and of a most perishable nature, are preserved in flint; and there are instances of the complete silicification of the young leaves of a palm-tree when just about to shoot forth, and in that state which in the West Indies is called the cabbage of the palm.* It may, however, be questioned whether in such cases there may not have been some antiseptic quality in the water which retarded putrefaction, so that the soft parts of the buried substance may have remained for a long time without disintegration, like the flesh of bodies imbedded in peat.

Mr. Stokes has pointed out examples of petrifications in which the more perishable, and others where the more durable portions of wood are preserved. These variations, he suggests, must doubtless have depended on the time when the lapidifying mineral was introduced. Thus, in certain silicified stems of palm-trees, the cellular tissue, that most destructible part, is in good condition, while all signs of the hard woody fibre have disappeared, the spaces once occupied by it being hollow or filled with agate. Here, petrification must have commenced soon after the wood was exposed to the action of moisture, and the supply of mineral matter must then have failed, or the water must have become too much diluted before the woody fibre decayed. But when this fibre is alone discoverable, we must suppose that an interval of time elapsed before the commencement of lapidification, during which the cellular tissue was obliterated. When both structures, namely, the cellular and the woody fibre, are preserved, the process must have commenced at an early period, and continued without interruption till it was completed throughout.†

* Stokes, Geol. Trans. vol. v. p. 212, second series.

† Ibid.