

consolidation, begun from the earliest period of development, is still advancing, and is producing in the fluids greater thickness, and a reduction of their total quantity; and in the solids, a diminution in the proportion of gelatin, and the conversion of this element into albumen. Hence, all the textures acquire increasing solidity, the cellular substance becomes firmer and more condensed, and the solid structures more rigid and inelastic: hence, the tendons and ligamentous fibres growing less flexible, the joints lose their suppleness, and the contractile power being also impaired, the muscles act more tardily as well as more feebly, and the limbs no longer retain the elastic spring of youth. The bones themselves grow harder and more brittle; and the cartilages, the tendons, the serous membranes, and the coats of the blood vessels, acquire incrustations of ossific matter, which interfere with their uses. Thus are all the progressive modifications of structure tending, slowly but inevitably, to disqualify the organs for the due performance of their functions.

Among the most important of the internal changes consequent on the progress of age are those which take place in the vascular system. A large proportion of the numerous arteries, which were in full activity during the building of the fabric, being now no longer wanted, are thrown, as it were, out of employment; they, in consequence, contract, and becoming impervious, gradually disappear. The parts of the body, no longer yielding to the power applied to extend them, oppose a gradually increasing resistance to the propelling force of the heart; while, at the same time, this force, in common with all the others, is slowly diminishing. Thus do the vital powers become less equal to the demands made upon them; the waste of the body exceeds the supply,

other hand, we were to regard each separate shoot as an individual organic body, and every layer as constituting a distinct generation of shoots, the older being covered and enclosed in succession by the younger, the great longevity of a tree would, on this hypothesis, indicate only the permanence of the species, not the indefinitely protracted duration of the individual plant.