

## CHAPTER III.

## DECLINE OF THE SYSTEM.

To follow minutely the various steps by which Nature conducts the individual to its state of maturity, would engage us in details incompatible with the limits of the present work. I shall only remark, in general, that during the period when the body is intended to increase in size, the powers of assimilation are exerted to prepare a greater abundance of nourishment, so that the average supply of materials rather exceeds the consumption: but when the fabric has attained its prescribed dimensions, the total quantities furnished and expended being nearly balanced, the vital powers are no longer exerted in extending the fabric, but are employed in consolidating and perfecting it, and in qualifying the organs for the continued exercise of their respective functions, during a long succession of years.

Yet, while every function is thus maintained in a state of healthy equilibrium, certain changes are in progress, which, at the appointed season, will inevitably bring on the decline and ultimate destruction of the system.\* The process of

\* It would appear, from the researches of De Candolle, that the vegetable system is not, like the animal, subject to the destructive operation of internal causes; for the agents which destroy vegetable life are always extraneous to its economy. Each individual tree is composed of an accumulation of the shoots of every successive year since the commencement of its growth; and although, from the continued deposition of lignin, and the consequent obliteration of many of its cells and vessels, the vitality of the interior wood may be destroyed, and it then becomes liable to decay by the action of foreign agents, yet the exterior layers of the *liber* still vegetate with undiminished vigour; and unless injured by causes extraneous to its own system, the life of the tree will continue to be sustained for an indefinite period. If, on the