

jected to a long series of modifications, and passing through many intermediate stages of development. The power of flight is never conferred upon the insect in the earlier periods of its existence : for before its structure can obtain the lightness which fits it for rising in the air, and before it can acquire instruments capable of acting upon so light an element, it has to go through several preparatory changes, some of which are so considerable as to justify the term of *metamorphoses*, which has been generally given to them.* But transient is the state of perfection in every thing that relates to animal existence. When the insect has by a slow development reached this ultimate elaboration of its organs, its life is hastening to a close; and the period of its perfect state is generally the shortest of its whole existence.

The history of the successive stages of the development of insects opens a highly interesting field of philosophical inquiry. For a certain period of the early life of these animals, the growth of all the parts appears to proceed equably and uniformly : but at subsequent epochs, some parts acquire a great and sudden increase of size, and others that were in a rudimental condition become highly developed, and constitute what appear to be new forms of organs, although their elements were in existence from a much earlier period. The modifications which the harder and more solid structures of insects exhibit in the progress of these changes, are particularly remarkable, as illustrating the principles on which the development is conducted. The researches of modern entomologists have led to the conclusion that the frame-work, or skeleton of insects, is always formed by the union of a certain determinate number of parts, or elements, originally distinct from one another, but which are variously joined and soldered together in the progress of growth : frequently exhibiting a great disproportion in the comparative expansion of different parts. The enlargement of any one part, however, exercises a certain influence on all the neighbour-

* Transformations quite as remarkable occur in several tribes of animals belonging to other classes: such as those of the *Frog* among reptiles, and of the *Lernæa* among parasitic worms.