

pears to have been compatible with any other imaginable system.

§ 2. *Series of Vital Functions.*

IN the animal economy, as in the vegetable, the vital, or nutritive functions are divisible into seven kinds, namely, Assimilation, Circulation, Respiration, Secretion, Excretion, Absorption, and Nutrition; some of which even admit of farther subdivision. This is the case more particularly with the processes of assimilation, which are generally numerous, and require a very complicated apparatus for acting on the food in all the stages of its conversion into blood, a fluid which, like the returning sap of plants, consists of nutriment in its completely assimilated state. It will be necessary, therefore, to enter into a more particular examination of the objects of these different processes.

In the more perfect structures belonging to the higher orders of animals, contrivances must be adopted, and organs provided for seizing the appropriate food, and conveying it to the mouth. A mechanical apparatus must there be placed for effecting that minute subdivision, which is necessary to prepare it for the action of the chemical agents to which it is afterwards to be subjected. From the mouth, after it has been sufficiently masticated, and softened by fluid secretions prepared by neighbouring glands, the food must be conveyed into an interior cavity, called the *Stomach*, where, as in a chemical laboratory, it is made to undergo the particular change which results from the operation termed *Digestion*. The digested food must thence be conducted into other chambers, composing the intestinal tube, where it is converted into *Chyle*, which is a milky fluid, consisting wholly of nutritious matter. Vessels are then provided, which, like the roots of plants, drink up this prepared fluid, and convey it to other cavities capable of imparting to it a powerful impulsive force, and of distributing it through appropriate channels of circulation, not only to the respiratory