

case of most species, mention of a number of such variations, which are described sometimes as individual deviations, and sometimes as so-called races, varieties, degenerate species, or subordinate species, and which often differ exceedingly from the original species, solely in consequence of the adaptation of the organism to the external conditions of life.

If we now endeavour to fathom the general causes of these phenomena of Adaptation, we arrive at the conclusion that in reality they are as simple as the causes of the phenomena of Inheritance. We have shown that the nature of the process of propagation furnishes the real explanation of the facts of Transmission by Inheritance, that is, the transmission of parental matter to the body of the offspring; and in like manner we can show that the physiological function of *nutrition*, or *change of substance*, affords a general explanation of Adaptation or Variation. When I here point to "nutrition" as the fundamental cause of variation and adaptation, I take this word in its widest sense, and I understand by it all the trophic changes which the organism undergoes in all its parts through the influences of the surrounding outer world. Nutrition thus comprises not only the reception of actual nutritive substances and the influence of different kinds of food, but also, for example, the action upon the organism of water and of the atmosphere, the influence of sunlight, of temperature, and of all those meteorological phenomena which are implied in the term "climate." The indirect and direct influence of the nature, of the soil and of the dwelling-place also belong to it; and further, the extremely important and varied influence which is exercised upon every animal and every