

organs, so that we must look upon the appearance of such structures as an entirely natural process, arising from the *disuse of the organs*.

By *adaptation* to special conditions of life, the formerly active and really working organs have gradually ceased to be used or employed. In consequence of their not being exercised they have become more and more imperfect, but in spite of this have always been handed down from one generation to another by *inheritance*, until at last they vanish partially or entirely. Now, if we admit that all the vertebrate animals mentioned above are derived from one common ancestor, possessing two seeing eyes and two well-developed pairs of legs, the different stages of suppression and degeneration of these organs are easily accounted for in such of the descendants as could no longer use them. In like manner the various stages of suppression of the stamens, originally existing to the number of five (in the flower-bud), among the Labiatae is explained, if we admit that all the plants of this family sprang from one common ancestor, provided with five stamens.

I have here spoken somewhat fully of the phenomena of rudimentary organs, because they are of the utmost general importance, and because they lead us to the great, general, and fundamental questions in philosophy and natural science, for the solution of which the Theory of Descent has now become the indispensable guide. As soon, in fact, as, according to this theory, we acknowledge the exclusive activity of physico-chemical causes in living (organic) bodies, as well as in so-called inanimate (inorganic) nature, we concede exclusive dominion to that view of the universe, which we may designate as the *mechanical*, and which is