

every other; and hence are deduced what have been termed the *laws of the co-existence of organic forms*. By attention to these laws we may often explain how each variation that is observed in any one organ, common to a natural group of animals, entails certain necessary and corresponding variations in other parts, and extends its influence in modifying, in a greater or less degree, the whole fabric. It is in comparative anatomy as in mechanics, where any alteration made in the position of one part of a system of bodies occasions a change in the centres of gravity, of gyration, and of oscillation; and evolves new mechanical forces and conditions of equilibrium, which render new adjustments in other parts necessary, in order to restore the equipoise, and preserve the harmony of their movements.

We may conclude from these inquiries that the numerous classes or assemblages of beings, which science has formed, are by no means arbitrary creations of the human mind, invented merely with a view to facilitate the study and to recognise the identity of species, or calculated only to supply the imperfections of our memory; but that they have a real foundation in nature. To regard any of the beings in the creation as isolated from the rest, would be to take a very narrow and a false view of their condition; for all are connected by mutual relations. Even among the leading types which represent the great divisions of the animal kingdom we may trace several points of resemblance, which show them to be parts of one general plan, and to have emanated from the same Creator. In the progress of discovery we are continually meeting with species which occupy intermediate places between adjacent types, and appear as links of connexion in the chain of being. It often happens, as I shall hereafter have occasion to point out, that throughout an extensive series of organic forms, the steps of gradation by which one type passes into another, are so numerous and so regular, as to preclude the possibility of drawing a decided line of demarcation between those that properly appertain to each other.