

or those of the Antarctic regions; there are not any more between the foxes and wolves of the most distant parts of the globe.¹ Moreover, if there were any, and the specific differences existing between them were insisted upon, could any relation between these differences and the cosmic influences under which they live be pointed out, which would at the same time account for the independence of their structure in general? Or, in other words, how could it be assumed that while these causes would produce specific differences, they would at the same time produce generic identity, family identity, ordinal identity, class identity, typical identity? Identity in every thing that is truly important, high, and complicated in the structure of animals, produced by the most diversified influences, while at the same time these extreme physical differences, considered as the cause of the existence of these animals, would produce diversity in secondary relations only! What logic!

Does not all this show, on the contrary, that organized beings exhibit the most astonishing independence of the physical causes under which they live; an independence so great that it can only be understood as the result of a power governing these physical causes as well as the existence of animals and plants, and bringing all into harmonious relations by adaptations which never can be considered as cause and effect?

When naturalists have investigated the influence of physical causes upon living beings, they have constantly overlooked the fact that the features which are thus modified are only of secondary importance in the life of animals and plants, and that neither the plan of their structure, nor the various complications of that structure, are ever affected by such influences. What, indeed, are the parts of the body which are, in any way, affected by external influences? Chiefly those which are in immediate contact with the external world, such as the skin, and in the skin chiefly its outer layers, its color, the thickness of the fur, the color of the hair, the feathers, and the scales; then the size of the body and its weight, as far as it is dependent on the quality and quantity of the food; the thickness of the shell of Mollusks, when they live in waters or upon a soil containing more or less limestone, etc. The rapidity or slowness of the growth is also influenced in a measure by the course of the seasons, in different years; so is also the fecundity, the duration of life, etc. But all this has nothing to do with the essential characteristics of animals.

A book has yet to be written upon the independence of organized beings of physical causes, as most of what is generally ascribed to the influence of physical agents upon organized beings ought to be considered as a connection established between them in the general plan of creation.

¹ Innumerable other examples might be quoted, which will readily present themselves to professional

naturalists; those mentioned above may suffice for my argument.