

however high we may estimate its value, we cannot admit its exclusive importance.

A second law of indirect adaptation, which we shall call *the law of monstrous or sudden adaptation*, is of less importance and less general than the law of individual adaptation. Here the divergences of the child-organism from the parental form are so striking that, as a rule, we may designate them as monstrosities. In many cases they are produced, as has been proved by experiments, by the parental organism having been subject to a certain treatment, and placed under peculiar conditions of nutrition; for example, when air and light are withdrawn from it, or when other influences powerfully acting upon its nutrition are changed in a certain way. The new condition of existence causes a strong and striking modification of form, not directly of the organism itself, but only of that of its descendants. The mode of this influence in detail we cannot discover, and we can only in a very general way detect a casual connection between the abnormal formation of the child and a certain change in the conditions of existence of its parents exerting a special influence upon the organs of propagation in the latter. The previously mentioned phenomenon of albinism probably belongs to this group of abnormal or sudden variations, also the individual cases of human beings with six fingers and toes, the case of the hornless cattle, as well as those of sheep and goats with four or six horns. The abnormal deviation in all these cases probably owes its origin to a cause which at first only affected the reproductive system of the parental organism, the egg of the mother or the sperm of the father.

A third curious manifestation of indirect adaptation may