

(potential) adaptation, has, on the whole, hitherto been little attended to, and Darwin has the merit of having directed special attention to this series of changes. Of late years August Weismann has investigated them very carefully, and places such exclusive importance in them as the sole transmissible deviations, that he finally altogether rejects the inheritance of direct adaptations. It is somewhat difficult to place this subject clearly before the reader; I will endeavour to make it clear hereafter by examples. Speaking quite generally, indirect or potential adaptation consists in the fact that certain changes in the organism, effected by the influence of nutrition (in its widest sense) and of the external conditions of existence in general, show themselves not in the individual form of the respective organism, but in that of its descendants. Thus, especially in organisms propagating themselves in a sexual way, the reproductive system, or sexual apparatus, is often influenced by external causes (which little affect the rest of the organism) to such a degree that its descendants show a complete alteration of form. This can be seen very strikingly in artificially produced monstrosities. Monstrosities can be produced by subjecting the parental organism to certain extraordinary conditions of life, and, curiously enough, such an extraordinary condition of life does not produce a change of the organism itself, but a change in its descendants. This cannot be called transmission by inheritance, because it is not a quality existing in the parental organism that is transmitted by inheritance. It is, on the contrary, a change affecting the parental organism, but not perceptible in it, that appears in the peculiar formation of its descendants. It is only the