

"we, as yet, do not know of any fact that would actually prove that acquired characteristics may be transmitted," and that "only such characteristics can be transmitted to a following generation for which a disposition already existed in the germ." Weismann demands new and convincing proofs for the transmission of adaptations, and in doing so forgets that such proofs are wholly wanting for his own, opposite hypothesis; nay, will probably never be forthcoming in the sense he desires. In my opinion, as well as that of many others who hold by transformism, the direct transmission of new adaptations (in Lamarck's sense) is a very important fact, and thousands of proofs of this are furnished by comparative anatomy and ontogeny, by physiology and pathology. And, indeed, the origin of thousands of special arrangements remains perfectly unintelligible without the supposition; for instance, functional and mimetic adaptation, instincts (hereditary psychical habits), etc. With regard to the inheritance of pathological changes, the reasons set forth by Virchow, as opposed to Weismann, are worthy of consideration.

At the head of these important phenomena of progressive transmission, we may mention the *law of adapted or acquired transmission*. In reality it asserts nothing more than what I have said above, that in certain circumstances the organism is capable of transmitting to its descendants all the qualities which it has acquired during its own life by adaptation. This phenomenon, of course, shows itself most distinctly when the newly acquired peculiarity produces any considerable change in the inherited form. This is the case in the examples I mentioned in the preceding chapter as to transmission in general, in the case of the