

strength which distinguishes this generation very essentially from the original parent. Let us, for example, examine a number of plants of one and the same species which grow together in a very dry soil. As the hairs on the leaves of plants are very useful for receiving moisture from the air, and as the hairs on the leaves are very variable, the individuals possessing the thickest hair on their leaves will have an advantage in this unfavourable locality where the plants have directly to struggle with the want of water, and in addition to this have to compete with one another for the possession of what little water there may be. These alone hold out, while the others possessing less hairy leaves perish; the more hairy ones will be propagated, and their descendants will, on the average, be more distinguished by their thick and strong hairs than the individuals of the first generation. If this process is continued for several generations in one and the same locality, there will arise at last such an increase of this characteristic, such an increase of the hairs on the surface of the leaf, that an entirely new species seems to present itself.

It must here be observed, that in consequence of the *interaction* of all the parts of every organism, as a rule one individual part cannot be changed without at the same time producing changes in other parts. If, for instance, in our imaginary example, the number of the hairs on the leaves is greatly increased, a certain amount of nourishment is thereby withdrawn from other parts; the material which might be employed to form flowers or seeds is diminished, and a smaller size of the flower or seed will then be the direct or indirect consequence of the struggle for life, which in the first place only produced