

new species arising from natural selection maintain themselves much more permanently, and return much less easily to the original form, than is the case with products of artificial selection, and accordingly maintain themselves during a much longer time than the artificial races produced by man. But these are only subordinate differences, which are explained by the different conditions of natural and artificial selection, and in reality are connected only with differences in the duration of time. The nature of the transformation and the means by which it is produced are entirely the same in both artificial and natural selection.

The thoughtless and narrow-minded opponents of Darwin are never tired of asserting that his theory of selection is a groundless conjecture, or at least an hypothesis which has yet to be proved. That this assertion is completely unfounded, may be perceived even from the outlines of the doctrine of selection which have just been discussed. Darwin assumes no kind of unknown forces of nature, nor hypothetical conditions, as the acting causes for the transformation of organic forms, but solely and simply the universally recognized vital activities of all organisms, which we term *Inheritance* and *Adaptation*. Every naturalist acquainted with physiology knows that these two phenomena are directly connected with the functions of propagation and nutrition, and, like all other phenomena of life, are purely mechanical processes of nature, that is, they depend upon the molecular phenomena of motion in organic matter. That the interaction of these two functions effect a continual, slow transmutation of organic forms, is a necessary result of the struggle for existence. But this, again, is no more a hypothetical relation, nor one requiring a proof,