

MESSRS. DARWIN AND WALLACE ON VARIATION OF SPECIES.

During the course of last year two papers were laid before the Linnean Society, which have so important a bearing upon geology, that a passing notice of them is necessary. One is by Mr. C. Darwin, "On the Variation of Organic Beings in a state of Nature; on the Natural Means of Selection; and on the Comparison of Domestic Races and True Species." The other paper is by Mr. Alfred Russel Wallace, "On the Tendency of Varieties to depart indefinitely from the Original Type." These papers are vouched for by two sponsors, Sir Charles Lyell and Dr. Joseph D. Hooker. I should not have paid much attention to them, or noticed them in this address, were it not evident that they are supposed by a certain class of geologists to prove more than they pretend, and to lead to conclusions which are rather hinted at than asserted. If they are of any value for a purpose beyond what appears to be their intention, it can only arise from the supposition that they go far to prove the doctrine of Transmutation of Species, a doctrine which appears to disturb the speculations of some geologists and naturalists as much as the Transmigration of Souls afflicted the Pythagoreans, or the Transmutation of Metals the Alchemists of the Middle Ages.

Let us examine what is asserted, and what is proved, by Mr. Darwin.

Mr. Darwin's paper is simply an application of Malthus's doctrine of population to organic species, and a consequent demonstration that none but the healthiest, the most vigorous, and the best provided of a species can survive; and that the weakest must 'go to the wall.' The result of this battle of life will be, that a race or variety of the species will be propagated, more intelligent, more capable of securing its food, than the other races; and that there will be no tendency to return to the original type if that type were less skilful and active than the variety into which it has passed by breeding. To this there can be no objection, except that of want of novelty.

Mr. Wallace, in his paper, adopts the same line of reasoning, and carries it one step farther, as appears from the following passage:—

"We believe we have now shown that there is a tendency in nature
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to the continued progression of certain classes of *varieties* further and further from the original type—a progression to which there appears no reason to assign any definite limits—and that the same principle which produces this result in a state of nature will also explain why domestic varieties have a tendency to revert to the original type. The progression, by minute steps, in various directions, but always checked and balanced by the necessary conditions, subject to which alone existence can be preserved, may, it is believed, be followed out, so as to agree with all the phenomena presented by organized beings, their extinction and succession in past ages, and all the extraordinary modifications of form, instinct, and habit which they exhibit.”

The possibility of departing *indefinitely* from the original type is here assumed, and must be regarded as an hypothesis contrary to our experience, and at variance with all we know of other departments of nature.

It does not follow, because we can bend a bow a certain distance without its breaking, that therefore we may safely apply to it any force; neither does it follow, that because the individuals of a certain variety of species are capable of living on under circumstances of privation and trial that would destroy their weaker brethren, that therefore they would survive any amount of change, by becoming accommodated to the new conditions. According to the law on which the Creator has formed the universe, it appears to me that the propagation of special varieties is simply a provision to guard against the destruction of the species by any, the least, change; and that it is unphilosophical in the highest degree to assume an unlimited amount of change to be possible.

This speculation of Messrs. Darwin and Wallace would not be worthy of notice, were it not for the weight of authority of the names under whose auspices it has been brought forward. If it means what it says, it is a truism; if it means anything more, it is contrary to fact.