

tions, come to extinction. But this isolation is hardly a natural condition, and was not included in Weismann's doctrine. Nor, of course, does he deny the violent death of Protozoa.

(3) Thirdly, it is worthy of note that at least many Protozoa are not subject to death from bacterial infection to the same degree as higher animals. The Amœba, for instance, seems but little perturbed by the presence of various virulent microbes. It engulfs them and digests them, as the phagocytes of higher animals do when in vigorous health, or when the odds against them are not too strong.

Assuming, then, that the simplest organisms are not subject to death in the same degree as higher animals are, what of immortality in the latter?

The only biological contribution to this question, which has of course nothing whatever to do with the religious conviction of spiritual immortality, is the doctrine of the organic continuity of the germ-cells or germ-plasm, which many have spoken of as immortal.

Weismann has made this conception most precise, but it has been in the minds of many. Goebel quotes this fine expression of it from Sachs: "That which has maintained itself alive, and has continually reproduced itself since the beginning of organic life upon the earth, moving steadily onward in the eternal change of all structures, in the unvarying alternation of life and death, *that* is the embryonic matter of vegetation, and it is this which in certain cases differentiates itself into the two sexes in order again to unite".

The forms of life are so varied that there is almost no corner of the earth or sea where it would be safe to predict the absence of organisms. On the mountain top and the floor of the deep sea, on the polar snow and in the desert sand, in the Mammoth Cave and in the Great Salt Lake, in the hot spring and in the polar water, almost everywhere we find life. It might, perhaps, be called a modern achievement, the demonstration of the almost universal distribution of organisms upon the earth, and the recognition of that protean plasticity which enables