

## THE LAST OF THE DARWINIANS

THE LAST SURVIVOR of the nineteenth-century group of British naturalists was Alfred Russel Wallace, who died a few days ago at the ripe age of ninety. In a sketch of Wallace contributed by Prof. Henry Fairfield Osborn, of Columbia University, to *The Popular Science Monthly* (New York, December), he is cited as the third link in a chain of "closely kindred spirits," of which the two first were Lyell and Darwin. Lyell's "Principles of Geology" (1832) inspired Darwin, who was followed by Wallace. Wallace, altho fourteen years Darwin's junior, advanced the theory of natural selection at the same time as Darwin. The two men, Professor Osborn tells us, were inspired by the same studies, tho Darwin was a university man and Wallace self-educated. "They enjoyed," we are told, "a similar current of influence from men, from books, and from nature." The way in which the idea of the new theory arose in the mind of each was practically the same. "The parallel," says Professor Osborn, "was extraordinary"; and he gives it in the following striking form:

### DARWIN

"In October, 1838, that is, fifteen months after I had begun my systematic inquiry, I happened to read for amusement, 'Malthus on Population,' and being well prepared to appreciate the struggle for existence which everywhere goes on from long-continued observations of the habits of animals and plants, it at once struck me that under these circumstances favorable variations would tend to be preserved, and unfavorable ones to be destroyed. The result of this would be the formation of new species. Here, then, I had at last got a theory by which to work; but I was so anxious to avoid prejudice that I determined not for some time to write even the briefest sketch of it. In June, 1842, I first allowed myself the satisfaction of writing a very brief abstract of my theory in pencil, in thirty-

### WALLACE

"In February, 1858, I was suffering from a rather severe attack of intermittent fever at Ternate, in the Moluccas; and one day, while lying on my bed during the cold fit, wrapt in blankets, tho the thermometer was at 88° Fahr., the problem again presented itself to me, and something led me to think of the 'positive checks' described by Malthus in his 'Essay on Population,' a work I had read several years before, and which had made a deep and permanent impression on my mind. These checks—war, disease, famine, and the like—must, it occurred to me, act on animals as well as man. Then I thought of the enormously rapid multiplication of animals, causing these checks to be much more effective in them than in the case of man; and while pondering vaguely on this fact there suddenly flashed upon me the idea of the survival of the fittest—that the individuals removed by these checks must be on the whole inferior to those that survived. In the two hours that

five pages, and this was enlarged during the summer of 1844 into one of 230 pages."—Darwin's *Autobiography*, chap. II.

elapsed before my ague fit was over, I had thought out almost the whole of the theory; and the same evening I sketched the draft of my paper, and in the two succeeding evenings wrote it out in full and sent it by the next post to Mr. Darwin."—Wallace's "My Life," p. 212.

In closing his account of Wallace's life, which was that of an active writer and thinker to the very last, Professor Osborn can not refrain from moralizing over what he calls "the pendulum of scientific opinion." He says:

"The discovery of a great truth such as the law of selection is always followed by an overvaluation, from which there is certain to be a reaction. We are in the midst of such a reaction at the present time, in which the Darwin-Wallace theory of natural selection is less appreciated than it will be in the future when there comes a fresh readjustment of scientific values.

"It is well to remember that we may not estimate either the man of science or his conclusions as of our own period, but must project ourselves in imagination into the beginnings of his thought and into the travails of his mind, considering how much larger he was than the men about him, how far he was an innovator, breaking away from the traditions of his times, how far his direct observations apart from theory are true and permanent, and how far his theories have contributed to the great stream of biological thought.

"Our perspective has covered a long, honorable span of sixty-five years into the beginnings of the thinking life of a natural philosopher whose last volume, 'The World of Life,' of the year 1911, gives as clear a portrayal of his final opinions as that which his first essay of 1858 portrays of his early opinions. [A still later volume on 'Social Environment and Moral Progress' appeared a few months ago.]

"We follow the cycle of his reflection beginning with 'adaptation' as the great mystery to be solved; in the middle and sanguine period of life, 'adaptation' is regarded as fully explained by natural selection; in the closing and conservative period of life 'adaptation' is again regarded in some of its phases as entirely beyond human powers of interpretation, not only in the evolution of the mental and spiritual nature of man, but in such marvelous manifestations as the scales of butterflies or the wings of birds.

"From our own intellectual experience we may sympathize with the rebound of maturity from the buoyant confidence of the young man of thirty-five who finds in natural selection the entire solution of the problem of fitness which has vexed the mind and aroused the scientific curiosity of man since the time of Empedocles. We have ourselves experienced a loss of confidence with advancing years, an increasing humility in the face of transformations which become more and more mysterious the more we study them, altho we may not join with this master in his appeal to an organizing and directing supernatural principle."