

THE STORY OF A NATURALIST¹

WHEN Herbert Spencer died, he was more than once referred to as "the last of the great Victorians." In the controversial comment which this provoked, the name of Alfred Russel Wallace, who is still living in his eighty-fourth year, was mentioned perhaps more than any other in support of the assertion that at least one "great Victorian" survived Spencer. It is not, however, altogether surprising that Mr. Wallace's claims to distinction should have been overlooked. For many years he has been in virtual retirement, and when he has fared forth it has usually been to support interests which are not such as to add luster to his reputation. Spiritualism, socialism, and land nationalization have found in him an ardent champion, while he has otherwise led Quixotic crusades against divers prevailing beliefs—against, for example, the belief in the efficacy of vaccination, and the theories obtaining in respect to the organization of the universe. But whatever may be thought of the views he entertains concerning these various subjects, there is no questioning his right to an eminent position in the scientific world. He was not only the first of the Darwinians; he was the co-discoverer with Darwin of the theory on which the fame of both securely rests. While the great evolutionist, after twenty years of patient labor, was finally formulating in England his hypothesis of the origin of species, the same hypothesis took shape in Mr. Wallace's mind as he lay on a bed of sickness in the far-off Malay Archipelago. "I waited anxiously," he recalls in the memoirs which he has at last given to the world, "for the termination of my fit, so that I might at once make notes for a paper on the subject. The same evening I did this pretty fully, and on the two succeeding evenings wrote it out carefully in order to send it to Darwin by the next post." To Darwin the arrival of this letter must have seemed

catastrophic. But the noble generosity he displayed and the equally gracious position taken by Mr. Wallace resulted, as scientists are well aware, in the two discoverers receiving full share of the credit due to each.

As may be imagined, the greatest interest attaches to what Mr. Wallace has to say concerning his work as a naturalist, and the famous men with whom this work brought him into more or less intimate relations. As a matter of fact, the remainder of his reminiscences are comparatively uninteresting. In the story of his childhood and of his youthful days as a surveyor there is much of value to the historian of social England, and the reader cannot but be amazed at the marvelous memory which has enabled the veteran to place on paper details which the great mass of mankind would lose in the affairs of after life. But this very multiplicity of detail operates to make the narrative drag, and its continuity is further broken by the inclusion of much in the way of "literary fragments" which might better have been suppressed or reserved for an appendix. However, there is in the nine hundred pages so much that is vital that the one lively regret must be that Mr. Wallace does not lay more stress on his achievements as a scientist and less on the different movements his connection with which has created in the minds of many a false estimate of his place among his contemporaries.

Mr. Wallace himself dates his interest in natural history from the days when he served as assistant to his brother William, who had found employment as a surveyor in Bedfordshire. "It was here," he writes, "that during my solitary rambles I first began to feel the influence of nature, and to wish to know more of the various flowers, shrubs, and trees I daily met with, but of which, for the most part, I did not even know the English names. At that time I hardly realized that there was such a science as systematic botany, that every meanest and most insignificant weed had been accurately described

¹ *My Life: A Record of Events and Opinions.* By Alfred Russel Wallace. Two Volumes. Dodd, Mead & Co., New York. \$6, net.

and classified, and that there was any kind of system or order in the endless variety of plants and animals which I knew existed." But he naïvely admits that, had he not been thrown on his own resources through the inability of his brother to give him steady employment, he would in all probability have become absorbed in surveying, and would have studied nature, if at all, as an amusement for his leisure hours. As it was, at the age of twenty-one he began to busy himself seriously with plant life, and four years later, in company with the entomologist Henry Walter Bates, left England for South America; not, however, to enlarge his knowledge of botany, but to collect birds, insects, and shells in northern Brazil, which was then very much of a *terra incognita* from the standpoint of a naturalist. The story of this memorable expedition has already been fully told in his "Travels on the Amazon and Rio Negro." Some four years of jungle work resulted in the securing of many rare and valuable specimens, and two years more were occupied in London in working out the cell actions. Then came the voyage to the Malay Archipelago, where eight years were spent, and where the crowning triumph was achieved. How the solution of the problem of the origin of species came to Mr. Wallace may best be related in his own words:

At the time in question I was suffering from a sharp attack of intermittent fever, and every day during the cold and succeeding hot fits had to lie down for several hours, during which time I had nothing to do but to think over any subjects then particularly interesting me. One day something brought to my recollection Malthus's "Principles of Population," which I had read about twelve years before. I thought of his clear exposition of the "positive checks to increase"—disease, accidents, war, and famine—which keep down the population of savage races to so much lower an average than that of more civilized peoples. It then occurred to me that these causes or their equivalents are continually acting in the case of animals also; and as animals usually breed much more rapidly than does mankind, the destruction every year from these causes must be enormous in order to keep down the numbers of each species, since they evidently do not increase regularly from year to year, as otherwise the world would long ago have been densely crowded with those that breed

most quickly. Vaguely thinking over the enormous and constant destruction which this implied, it occurred to me to ask the question, Why do some die and some live? And the answer was clearly, that, on the whole, the best fitted live. From the effects of disease the most healthy escaped; from enemies, the strongest, the swiftest, or the most cunning; from famine, the best hunters or those with the best digestion; and so on. Then it suddenly flashed upon me that this self acting process would necessarily *improve the race*, because in every generation the inferior would inevitably be killed off and the superior would remain—that is, *the fittest would survive*. Then at once I seemed to see the whole effect of this, that when changes of land and sea, or of climate, or of food supply, or of enemies, occurred—and we know that such changes have always been taking place—and considering the amount of individual variation that my experience as a collector had shown me to exist, then it followed that all the changes necessary for the adaptation of the species to the changing conditions would be brought about; and as great changes in the environment are always slow, there would be ample time for the change to be effected by the survival of the best fitted in every generation. In this way every part of the animal's organization could be modified exactly as required, and in the very process of this modification the unmodified would die out, and thus the *definite* characters and the clear *isolation* of each new species would be explained. The more I thought over it the more I became convinced that I had at length found the long-sought-for law of nature that solved the problem of the origin of species.

This was in 1858. Four years afterwards Mr. Wallace returned to London to find scientific England, already acquainted with his discovery and in a ferment over the publication of Darwin's great work, awaiting his arrival with no little curiosity. He was now assured of the friendship of many eminent men; but he was equally certain to be drawn into the whirlpool of controversy. Of the battles of the evolutionists and anti-evolutionists he says comparatively little; but he allows us numerous and intimate glimpses of his illustrious fellow-workers—Darwin, Huxley, Spencer, Lyell, Tyndall, Romanes, Mivart, and others. Curiously enough, he accords primacy among these to the geologist, Lyell, "not only on account of his great abilities and his position as one of the brightest ornaments of the nineteenth century, but because I saw more of him

than of any other man at all approaching him as a thinker and leader in the world of science." Cautious and conservative by temperament, but of a liberal and genial mind, and with a lively sense of humor, Sir Charles must have been a most companionable friend as well as an invaluable counselor. With Darwin, too, Mr. Wallace was on terms of the warmest friendship, and although they differed roundly concerning the mental and moral nature of man, their personal relations do not seem to have been disturbed. The correspondence here published, some for the first time, reveals, as "The Life and Letters of Charles Darwin" and "More Letters of Charles Darwin" have already revealed, the intense humanity of this devotee of science. The human side of Spencer is likewise clearly shown. To cite but one anecdote, Mr. Wallace refers, in passing, to Spencer's life at Bayswater, "where he lived for many years in a boarding-house with rather a commonplace set of people—retired Indian officers and others." There they frequently dined together, and, the naturalist continues:

I was amused when some popular error was solemnly put forth at dinner as the explanation of some phenomenon, and Spencer would coolly tell them that it was quite incorrect, and then proceed to explain *why* it was so, and on principles of evolution could not be otherwise. In the evening, after we had had a little private conversation, we would go into the drawing-room, where there was music, and Spencer would sometimes play on his flute. On remarking to him one day that I wondered he could live among such unintellectual people, he said that he had purposely chosen such a home in order to avoid the mental excitement of too much interesting conversation; that he suffered greatly from insomnia, and that he found that when his evenings were spent in commonplace conversation, hearing the news of

the day or taking part in a little music, he had a better chance of sleeping.

Huxley, another of the friends of his London years, always inspired in him, he confesses, a feeling of inferiority and awe—"an inferiority which I did not feel either with Darwin or Sir Charles Lyell." This feeling Mr. Wallace ascribes to the fact that Huxley's enormous fund of knowledge was of a kind of which he himself possessed only "an irreducible minimum." Huxley, it might be added, was one of the several leaders of thought whom he vainly sought to enlist in his inquiries into spiritualism, his efforts only evoking the following characteristic letter:

I am neither shocked nor disposed to issue a Commission of Lunacy against you. It may be all true, for anything I know to the contrary, but really I cannot get up any interest in the subject. I never cared for gossip in my life, and disembodied gossip, such as these worthy ghosts supply their friends with, is not more interesting to me than any other. As for investigating the matter—I have half a dozen investigations of infinitely greater interest to me, to which any spare time I may have will be devoted. I give it up for the same reason I abstain from chess—it's too amusing to be fair work, and too hard work to be amusing.

This letter from Huxley is in itself one explanation of Mr. Wallace's failures to induce his fellow-scientists to explore the "borderland." The narrative of his own explorations finds place, of course, in these pages, and is written with the frankness which is one of the most pleasing features of the work. But it fades in interest, as does all else of which he treats, when compared with his account of his labors as a naturalist, and of those wonderful days when, with Darwin and his friends, he strove to compel acceptance of the doctrines of evolution.