

### DARWIN'S FELLOW WORKER

*My Life, a Record of Events and Opinions.* With facsimile Letters and Portraits. Two vols. By ALFRED RUSSEL WALLACE. (Chapman & Hall, 25s. net.)

"HARD words break no bones"; if they did Alfred Russel Wallace would not be alive now to give us a yet further insight into that new epoch of thought which he and Charles Darwin created. They broke the rule of a hoary tradition, and set men free from the bonds of an intellectual serfdom. Yet, strange to say, they met with but a sorry reward for their pains. The newly emancipated, with the blind folly of the moment, hurled upon their benefactors every kind of calumny and abuse; the spiritual pastors and masters of the time proclaimed a holy war against the new learning, and these bell-wethers were eagerly fol-

lowed by the crowd. To-day Darwin's remains rest in Westminster Abbey, while his co-worker happily still dwells among us, intellectually vigorous, as may be seen by a perusal of these two volumes, and a strange and moving story it is they tell.

Born at Usk, in Monmouthshire, in 1823, he traces in ample detail the history of his early life and training, giving us a picture of a sensitive, impressionable boy, not seldom misunderstood by his elders; but as yet, showing no sign of any special inclination towards the career which was destined to have such momentous consequences. Not, indeed, until he had reached his nineteenth year did he begin to develop any serious interest in Natural History. At this time he was engaged in the work of surveying, acting as assistant to his brother; and, being thrown much upon his own resources, found great fascination in solitary walks among the moors and mountains in the neighbourhood of Neath. "But what," he says, "became more and more the solace and delight of my lonely rambles was my first introduction to the variety, the beauty, and the mystery of nature as manifested in the vegetable kingdom." As a matter of fact this interest had been simmering for some three years previous, beginning with his apprenticeship to the surveying work in Bedfordshire. Here he made his first acquaintance with geology, and "here too," he says, "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 Neath, in 1841, he bought his first book of botany, which proved a great disappointment, but Loudon's "Encyclopædia of Plants," "The Gardener's Chronicle," and a diligent study of living plants, soon placed him in possession of a fair working knowledge of the principles of botany.

On coming of age he left his brother at Neath and returned to London to find employment. Since no surveying was to be had, he decided to take up the work of a schoolmaster, and quickly obtained a post in the Collegiate School at Leicester. It was here that he first fell under the spell of Spiritualism, and met the man who was to play so important a part in his future career—Henry Bates. The first result of this meeting was to introduce Wallace to the delights of entomology. Bates was an enthusiast, and had a fine collection of beetles, all found, to Wallace's amazement, in the neighbourhood of Leicester. Wallace proceeded forthwith to provide himself with the necessary outfit and start work in this new field. But at the end of the year 1841, finding that he had no vocation as a teacher, he returned to Neath, and joining another brother started anew as a surveyor, and impressed his brother into the work of a collector of Natural History specimens. From time to time he and Bates exchanged letters, and during a visit from Bates in 1848 the idea of a collecting trip to the tropics was mooted. This scheme was born of the fascination exercised on both by the perusal of three books now reckoned among the Classics of the Naturalist—Lyell's "Principles of Geology," Darwin's "Voyage of the *Beagle*," and Humboldt's "Personal Narrative." Ultimately they decided on a zoological expedition to the Amazons, and set sail in the *Mischief* on April 26, 1848, arriving at Para on May 28. The story of this memorable expedition Dr. Wallace has already given us in his delightful "Travels on the Amazon."

From time to time he sent home the duplicates of the spoils of his hunting, but reserved his private collection and the results of his last few years' work, until he himself returned. Thus, when he turned his face towards home he had a most valuable cargo, besides a number of live birds and beasts. But the voyage was full of terrors. When only a few days out he was laid low by fever; and ere he had fully recovered he was called on to face the awful experience of a ship on fire. After the most strenuous labour to overcome the enemy they had to give up the struggle and take to the boats, with such provisions as they could muster. Day after day they drifted, living

like men desiring without hope. But deliverance came at last, in that they were picked up by a steamer laden with wood from Cuba. She proved to be a very unseaworthy boat, and before long the prospect of speedy death had to be faced afresh, a terrible storm arising which threatened to batter her rotten timbers into matchwood. As by a miracle, however, she weathered the gale; and on October 12, Wallace writes: "Oh glorious day! Here we are on shore at Deal . . . Such a dinner, with our two captains! Oh! beef-steaks and damson-tart, a paradise for hungry sinners."

The following two years were spent in London working out his collections, the result being incorporated in a series of papers read at the Linnæan and Zoological Societies; and it was at one of the meetings of the latter that he first met Huxley, with whom he ultimately became fairly intimate. During this brief breathing-space he planned an expedition to the Malay Archipelago. In this land of wonders he spent the next eight years: and laborious years they were, inasmuch as, in spite of fevers and delays, he collected no less than 128,000 specimens of Natural History, among which new species were to be numbered by the thousand. Eyes and ears and brain, during all this time, as well as hands, were at work, with the result that a vast number of new facts and observations on the country, the natives, and the animals and their habits was accumulated. But while the treasures of his expedition could only be transformed into useful material for the advancement of zoological science by himself and others after their arrival in England, the wealth of facts which he had gradually accumulated in his brain was quickly maturing: fruition gave the world a new theory of the origin of species. That such momentous results should have shaped themselves while he lay stretched on a bed of sickness is astounding. Yet such is the case. Suffering from an attack of intermittent fever, he sought ease from pain by pondering "over any subject particularly interesting to me." One day his thoughts churned up some of Malthus's generalisations set forth in his "Principles of Population," among them the "clear exposition on '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 civilised peoples." He applied a similar line of reasoning to the case of the lower animals, and it suddenly flashed upon him that similar checks must produce a like result—the fittest would survive. Verily this was a case of the triumph of mind over matter, for he writes:

"I waited anxiously 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 two succeeding evenings wrote it out carefully in order to send it to Darwin by the next post. . ."

The results of the receipt of the letter all the world knows. Let it suffice here to recall the noble generosity displayed by Darwin, who had for twenty years been preparing a great work setting forth exactly the same theory, founded on that same wonderful book, "Malthus on Population." Darwin submitted the letter to his friends Lyell and Hooker, who rightly refused to allow him to make the sacrifice he seemed, as a matter of course, willing to make. They devised a way by which each of the two discoverers received his full share of the honour due to both.

To a man of less generous instincts than his the sending of this letter to Darwin would have seemed like an unfortunate and irreparable blunder, whereby he had robbed himself at least of the great prize of priority. But such a thought seems never to have crossed his mind. In these volumes he writes of this wonderful work and still more wonderful coincidence, as ever, with amazing modesty and chivalrous generosity. He is not only content to divide the honours of joint discovery, but insists that Darwin alone could have brought this theory to its full perfection.

Reprints of a number of delightful letters, many of his own, others from various friends, concerning his work, the

fauna and flora of the Malay Archipelago, and his life in London, conclude the first volume.

In the second volume he deals with his friendship with Darwin, Spencer, Huxley, Mivart, and others. Much of this is compiled from letters, for eight years after his return from the Malay Archipelago he left London (where he wrote this fascinating book and worked out his wonderful collection) for the country; moving thereto by degrees, first to Barking, next to Grays, where he built a house, and later to Croydon, where he wrote his great work on the geographical distribution of animals.

He next embarked on a long lecturing tour in America, his account of which occupies nearly half of this volume.

The chapters on Land Nationalisation, Socialism, and Spiritualism, questions in which Dr. Wallace has taken a very conspicuous part in later years, do not blend well with the rest of these pages. The name of Alfred Russel Wallace is indissolubly linked with that of Charles Darwin and the Darwinian theory, and somehow we can never willingly associate it with the products which have come from his pen during these later years.

We bring this notice to end here with regret, inasmuch as we have but touched on one aspect of this remarkable career, but that aspect is the one which has gained for Dr. Wallace the admiration and regard of men of science the world over. Dr. Wallace has been his own recording angel, and those who peruse the record cannot but pronounce it well and truly written.

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