CHARACTER SKETCH.

ALFRED RUSSEL WALLACE, O.M., D.C.L., F.R.S.

By JAMES MARCHANT.

MONGST the high names which marked the Victorian age, that of Charles Darwin occupies the chosen place. There were others who were caught up by the central current of evolutionary thought-Lyell, whose strong support Darwin and Wallace at first sought; Galton, who left the beaten track to found a new city whose builder

was to be rejuvenated man; Huxley, the brilliant defender of Darwinism-"my good and admirable agent," the master called Herbert him; Spencer, the lofty master of that philosynthetic sophy which seemed to have the proportions and qualities of an enduring monument, whose incomparable fertility of creative thought entitled him to share the throne with Darwin. These men of far-shining pre-eminence led that historic movement which garnered the work of Lamarck and Buffon and other forerunners not to be forgotten,

and gave a new direction to the ceaseless interrogation of Nature to discover the "Why" and the "How" of the august progression of life.

Amongst these illustrious pioneers, Dr. Alfred Russel Wallace-who, as he smilingly said to me one day, had "lived beyond his day and generation "-occupied an unique place. And with his death the great epoch of the introduction of evolution closes.

After a school education which failed to draw out his natural gifts, Wallace became a land surveyor, devoting his spare time to botany. On coming of age he arrived in London without employment. This blessed misfortune set him planning a "wild scheme" to go off to the unknown Amazonian forests to observe Nature and make a living by collecting. "I possessed

Haines.

Photo by

The late Dr. Alfred Russel Wallace

at that time," said years later, "a strong desire to know the cause of things, and a great love of beauty in form and colour." He found a kindred spirit in Henry Walter Bates, and with Darwin's "Journal," Humboldt's "Travels," Lyell's "Geology," and Chambers's "Vestiges" in his knapsack, he began his long wandering in the Amazon, and later in the Indo-Malay Islands, far from clothes and civilisation, in hourly contact with Nature in her everchanging wondrous moods: observing, like Darwin, too, with great surprise and

delight, the uncontaminated savage-true denizens of the Amazonian forests; sleeping in dense jungles; collecting vast numbers of butterflies, beetles, and birds, and a vaster store of firsthand knowledge which was to prove him, like Darwin, a born naturalist, and to form the foundation of his life's work. There he accumulated the facts upon which he was to build up his fascinating story of the utility of colours in protecting insects, birds and animals from destruction, and as recognition marks. There he began the study which led up to his great work on the geographic distribution of animals and of plants; and there, too, he saw Nature in her most dazzling and sublime aspects-" the sombre shade of the dense forest scarce illumined by a single direct ray even of tropical sun; the enormous size and height of the trees, most of which rise like huge columns a hundred feet or more without throwing out a single branch . . .; the rarest of birds; the most lovely insects; the most interesting mammals and reptiles-the jaguar and the boa constrictor; and, amidst the densest shade, the bell bird tolled his peal."

Whilst on these travels he was brooding over the origin of species. In 1855 he wrote his first paper, "On the Law which has Regulated the Introduction of New Species," and three years later the essay which was to link his name forever with Darwin's as the co-discoverer of the

theory of natural selection.

Ark being made too small.

Of the origin of species and of man we may say with Hugh Falconer, when advocating the claims of Darwin to the Copley Medal, that this solemn and mysterious subject had been either so lightly or so grotesquely treated before that it was hardly regarded within the bounds of legitimate investigation. Darwin, for instance, used to tell Lyell of a Mr. Fitz-roy, Defender of the Faith, who expounded the theory of the extinction of the mastodon from the door of the

The story of the origin of the "Origin of Species" has become part of our literary heri-There are, however, personal and dramatic elements in it which should be recalled in any character estimate of Wallace. Darwin, in a letter to Hooker, disclosed the first steps of the great discovery. "I determined to collect blindly every sort of fact which could bear any way on what are species. . . . At last gleams of light have come, and I am almost convinced (quite contrary to the opinion I started with) that species are not (it is like confessing a murder) immutable. . . . I think I have found out (here's presumption) the simple way by which species become exquisitely adapted to various ends." So the truth dawned upon Darwin, and he committed it to writing, and communicated with Hooker and Lyell.

About that time, far away in the virgin forests of Ternate, Wallace lay smitten by malarial fever. As he mused over the same old problem, the truth also flashed upon him, and as soon as the fever abated, he wrote it down and sent it to Darwin. "This essay," said Darwin, "which was admirably expressed and quite clear, contained exactly the same thing as mine.

If Wallace had my MS. sketch, written out in 1842, he could not have made a better short abstract. Even his terms stand now as the heads of my chapters. So all my originality will be smashed. I have been anticipated with a

vengeance."

The behaviour of the two men is a conspicuous instance of what has been called "the one high virtue, that exalted and magnanimous generosity which can never fail to touch a multitude." "As to the theory," wrote Wallace to Darwin, "I shall always maintain it to be actually yours, and yours only. All the merit I claim is the having been the means of inducing you to write and publish it "What a fine philosophical mind your friend Wallace has; and he has acted, in relation to me, like a true man with a noble spirit," Darwin wrote to Bates. This is the point of this fragrant story of which I have retold a fragment—the men themselves were greater than the theory of evolution which has illumined the world. And through all the years of their relations not the faintest shadow of rivalry came between them. They possessed in an enviable degree that calm tranquillity born of true science and a devotion to truth for its own sake which is in danger of being lost in this feverish and jealous age.

His wanderings over, he married in 1866 Annie Mitten, daughter of the eminent botanist, and commenced that happy home life which set him free to write. This is not the occasion to lift the veil, but the reader will be interested to see something of Wallace's daily life during the last ten years, through the eyes of his daughter.

He rose about 8 o'clock and breakfasted alone in his study. This meal was merely a cup of tea, latterly cocoa, which he made himself. He read the paper, and went into the greenhouse to look at his seeds or any plant which was of special interest at the time.

After this he usually wrote letters or any book he happened to have on hand. At 11 or 11.30 he drank hot water and often ate an orange, a fruit he was extremely fond of, then he would go out into the garden and visit at his special plants. His chief meal was taken at 1 o'clock, and this consisted of beef cooked in a special way and cut very thin. He ate no bread or vegetables, but liked fruit, and it was a source of much interest to my small pupils to see Dr. Wallace eating bananas and oranges with his meat. After dinner he usually rested till 3 o'clock, when he would go for another turn in the garden or see anyone who happened to call.

At 4.30 he had tea, which he also made himself, but ate nothing, and he usually had this in his study, excepting when we had old friends or anyone he wanted to see, when he would come into the drawing-room. He was always ready to talk to people about this time in the day, and if he was interested he did not mind how long they stayed. After tea,

if there were no people to see, he would do a little more work till supper time at 7.30, which was quite a light meal, usually of fruit and rice pudding. He drank hot water flavoured with orange juice and about a teaspoonful of very light wine. After this he allowed himself to read a novel, never at any other time. He was very fond of a good story, especially what he called a "good domestic story," but he also liked mysteries and adventures. He went to bed between 10 and 11 o'clock. This is typical of most of his days, but of course they varied. Sometimes he worked more if he had a book on hand; at others, if he had no writing, his chief interests were in the garden, where he was always planning fresh beds or moving choice plants to better situations. He raised hundreds of plants from seeds sent from all parts of the world, and if there was any new plant in flower we were always told of it.

He was very independent-always did everything for himself, was never read to, and only quite recently did he have any help with his correspon-He was very active, too, stepping on to chairs to reach down books, and always walked with a long stride and a peculiar swing of his right leg. He had some enormous boots for the garden, with wooden soles; they measure 13in. long, and one wonders how he could have walked at all in them. Walking was one of his great pleasures in the early days, and it was a family institution to go out for the whole day, taking lunch with us. Whenever we went for a holiday we walked every day, thoroughly exploring the new district in every direction with the help of an ordnance map which we took with us on our walks. He had no fear as to microbes or any such "nonsense," and would have drunk any water that looked clear. I remember he used to carry a little drinking cup, and on one delightful and never-to-beforgotten walk in the Epping Forest he produced from his pocket a length of indiarubber tubing which he let down into a wayside stream and offered me a drink. If we cut our fingers they were bound up with stamp-paper, and this he always used for himself quite up to the end of his life.

As to general characteristics, he was always cheerful, and always took a hopeful view of life and things in general. He hated pessimism. interests and knowledge were so varied that he was able to talk on any subject, and to us was a veritable living encyclopædia supplying inexhaustible informa-He was fond of little children, and liked me to have one or two pupils. If there were none, he always asked if any were coming, and was quite disappointed if I said no. I don't think he was really fond of animals; he put up with them, but took little notice of them, though he allowed the cat to lie on his table so long as it did not disturb him, and he was fond of watching kittens at play. An old cat we still have, aged 192, was generally to be found in the study asleep amongst the books and papers.

Home and religion grew together, secret and deep as life itself. His religion might very well be called, after Carlyle, "Natural Supernaturalism." "The completely materialistic mind of my youth and early manhood," he wrote to the present writer not long before his death, "has been slowly moulded into the

socialistic, spiritualistic, and theistic mind I now exhibit—a mind which is, as my scientific friends think, so weak and credulous in its declining years as to believe that fruit and flowers, domestic animals, glorious birds and insects, wool, cotton, sugar and rubber, metals and gems, were all foreseen and fore-ordained for the education and enjoyment of man." And again, in a later letter: "Laws of Nature apart from the existence and agency of some such Being or Beings are mere words that explain nothing—are, in fact, unthinkable. . . . Whether the 'Unknown Reality' is a single Being and acts everywhere in the universe as direct creator, organiser and director of every minutest motion in the whole of our universe, and of all possible universes, or whether it acts through infinite grades of beings, as I suggest, comes to much the same thing. Mine seems a more clear and intelligible supposition, and it is the teaching of the Bible, of Swedenborg, and of Milton."

There is, he contended, a creative Power, a directive Mind, and an ultimate Purpose in the very existence of the whole vast life-world, in all its long course of evolution through the æons of geological time. This Purpose is the development of man, the one crowning product of the whole cosmic process.

And he believed that we could hold effective intercourse with spirits beyond the veil; that the cumulative weight of evidence for such communion was amply sufficient to convince the unprejudiced mind. To the cocksure opponents of super-naturalism he would have replied, with Carlyle: The course of Nature's phases in this one little fraction of a planet is partially known to us; but who knows what deeper courses these depend on; what infinitely larger cycle (of courses) our little epicycle revolves on? To the minnow every cranny and pebble and quality and accident may have become familiar; but does the minnow understand the ocean tides and periodic currents, the trade winds and monsoons and moon's eclipses, by all which the condition of the little creek is regulated, and may, from time to time (unmiraculously enough) be quite overset and reversed? Such a minnow is man; his creek this planet earth; his ocean the immeasurable all; his monsoons and periodic currents the mysterious course of Providence through æons of æons.

The wide realms of science and religion did not exhaust his interests. He was not quite sure of, although he wrote the above letter to disclose, the order of the development of his mind. His social views, however, largely occupied his later years. They were red with his life's blood. These views are given in many of his essays, but the final expression of them in Social Environment and Moral Progress, actually the last book he wrote, may be appropriately recounted. The book is an indictment of our present social environment. He shows by apt illustrations that the essential character of man -intellectual, emotional, and moral-is inherent in him from birth; that it is subject to great variation from individual to individual, and that its manifestation in conduct can be modified in a very high degree by the influence of public opinion and by education. These latter changes, however, are not hereditary, and it follows that no definite advance in morals can occur in any race unless there is some selective or segregative agency at work. He declares that history shows that the increase of wealth and luxury has been distributed with grave injustice. The first duty of a civilised Government, he says, is to "organise the labour of the whole community for the equal good of all," and to take immediate steps to abolish death by starvation and by preventible disease due to insanitary dwellings and dangerous employment, where

> Pale anguish keeps the heavy gate, And the warder is despair.

He saw, with Carlyle, that injustice pays itself with frightful compound interest.

And now hear the conclusion of his indictment of a nation which he heavily underscored in his manuscript:—"Taking account," he wrote, "of these various groups of undoubted facts, many of which are so gross, so terrible, that they cannot be overstated, it is not too much to say that our whole system of society is rotten from top to bottom, and the social environment as a whole, in relation to our possibilities and our claims, is the worst that the world has ever seen."

What in his judgment is the remedy? There are conditions which indirect solvents can alone effectively break up. But Dr. Wallace believed that the existing social system must be completely overthrown by a frontal attack. First, there must be universal co-operation instead of universal competition; secondly, a system of economic brotherhood in place of economic antagonism; thirdly, freedom of access to land and capital for all; and lastly, equality of opportunity for all or of universal inheritance of the State in trust for the whole community. "We have ourselves," he says, "created a criminal or immoral social environment. To undo its inevitable results we must reverse our course. We must see that all our economic legislation, all our social reforms, are in the very opposite direction to those hitherto adopted."

What amazing versatility all this implies a glance over the catalogue of his writings will disclose. In the MS. before me they occupy thirty closely typed foolscap pages, and range

over earth and sky and sea-for he was a biologist, a naturalist, a geographer, a sociologist, and he was familiar with the courses of the stars. In one book he is engaged on a critical examination of Lowell's evidence for the habitability of Mars and on an exposition of the place of man and the earth in the universe; in another he is discussing with a vast wealth of first-hand observations the permanence of continental and ocean areas; now he brings his analytical mind to the examination of the alleged results of vaccination, and again to an investigation into the phenomena of hypnotism, of which he had experimental knowledge; one period is given to a masterful survey and development of what he magnanimously calls Darwinism, which, with equal justice might have been called "Wallaceism," and another to the illuminating story of mimicry, and again to the wonderful nineteenth century. And, as we have seen, he brought the full weight of his knowledge and the deepest convictions of his heart to bear upon the causes of the suffering and oppressed which identified him with the revolt of democracy. The famous saying in the Memoirs of Sully might have been his: "It is never from a passion for attack that the populace rebels, but from impatience of suffering.

In every phase of these wide and varied themes Wallace had something practical to say which commanded a patient hearing, and whilst meeting the immediate need he saw the entwined roots of its origin, and the far-off historic complexities to which it would give rise. He never flinched from the uttermost results of his reasoning, and was courageous enough to take his own measure. He shunned the inglorious acquiescence in views which he had not made his own by hard thinking. Men of science, Romanes used to say, should avoid the seductive temptations of the world, the flesh, and the devil in the form of speculation, deduction, and generalisa-Not so Wallace. If his reasoning led to anti this or anti that, he did not stop to count the cost to his scientific position, but loyally welcomed unpopular belief. And being desperately in earnest he could not cheerfully abide the frivolous or superficial man.

Yet in a singular degree he had the charming virtues of simplicity and transparent modesty, whilst his lofty spaciousness of outlook ranged over the long succession of past generations. Above all else, let it be repeated, he had a reverence for truth, which was his means of salvation. And his epitaph might justly be Veritatem dilexi.

Soul and body were well matched in Wallace. To have looked at him some few months ago, said my wife, who was with me on one of my last visits, one could scarcely believe that he was over ninety. He had a fine presence, tall and

remarkably erect, with a firm step and gracious demeanour. His noble head was at once the most attractive in any company, plentifully covered with beautiful white hair, his beard coming down over his breast. His eyes could not be clearly seen because he wore blue glasses, but as he talked a gentle smile played over his features. He sat with one leg over the other, quite at ease, his hands clasped in front of him. His voice was rich and mellow, like a good organ note, making it delightful to listen to the wonderful flow of his conversation, free from any trace of weakness.

He was about to begin writing a new book when the end suddenly approached. He literally fell asleep of old age on Friday, November 7th, in his ninety-first year, somewhere about 9.25 a.m. On Monday, the 10th, followed by his son and daughter and sister-in-law and a small company of kindred

souls, he was buried with touching simplicity in the little cemetery of Broadstone, on a pine-clad dune swept by ocean breezes. As we stood beside the grave our hearts went out to his widow in the home to which he would nevermore return. There is a vacant spot beside the illustrious Darwin in our own Minster, where by right of greatness he should have reposed, but the family and his own wishes prevailed. Before long, however, visitors to the Abbey may find his name engraved upon medallion and bust beside Darwin's; in the Royal Society and our National Gallery a portrait by Mr. Seymour Lucas, R.A., as a companion to Darwin's; and at South Kensington Museum, if funds permit, a statue. For in death, as in life, Darwin and Wallace are united. Here or yonder, they were members of the

> One great family on earth— The noble living and the noble dead.

But to what they factor to perceive is, that in a world lake this, made by infinite goodness and wisdows, Right is always the great standby for men and for nations, and for the sich as well as for the poor; and that Worong, somer on later, ends in' onisery and destruction. That is sound moral teaching. We have been doing the Worning for the past contary, and we have reaped, and are reaping "musery and destruction: It is time that (as I think I have posited out) fundamentally Torang, radically anjust, wholly Sommord.