SCIENCE.

Darwinism: An Exposition of the Theory of Natural Selection, with some of its Applications. By Alfred Russel Wallace. (Macmillan.)

Among the great and pregnant thinkers of a great and pregnant age of thought, it is probable that Mr. Alfred Russel Wallace has never yet received his due need of recognition. Most discoverors, indeed, are amply satisfied if in the course of a lifetime they strike out a single grand and epoch-making conception. Mr. Alfred Russel Wallace has struck out two such on very different planes of speculative and practical thought. That one and the same man should have evolved in biology the theory of natural selection and in politics the theory of land nationalisation, is truly astonishing. After ages, looking back upon those two great accomplished revolutions in belief and practice, will wonder that this age, so heedless of its own greatness, should have allowed so powerful and original a thinker to remain for life in such comparative obscurity. The popular, or humanity nowadays begin to get known only as they surge towards the bourne of eighty.

Mr. Wallace's new book may be regarded in either of two lights—first as a popular exposition, and secondly as a manifesto. For it is addressed to two worlds at once—to the scientific few, to whom it will come as an interesting, though with abundant inductive verification, the necessity for natural selection as a factor in evolution. All this expository work is admirably done. The sketch, so draught of, is in perfect drawing. It shows Mr. Wallace's skill as a scientific artist of the highest excellence. His proportion and perspective are almost always just. Let me add that he has with characteristic modesty omitted, what nobody else in such a treatise could possibly omit, all reference to his own important part in the resultant discovery of the principle of natural selection by two distinct thinkers. This is only of a piece with Mr. Wallace's whole attitude on the matter throughout. While less men have wrangled with unseemly discussion over petty questions of priority, Mr. Wallace, with the careless unselfishness of true greatness, has content to see his own principle triumph under the name of that still more admirably equipped naturalist to whose advocacy of their joint idea its universal acceptance is without a doubt mainly attributable.

From the second point of view, as a reasoned statement of Mr. Wallace's analysis of the work, of course, demands more extended criticism. It is a last testament and confession of faith on all the debatable points in the evolutionary platform. To begin with, Mr. Wallace fights hard what I firmly believe to be the losing battle in favour of natural selection, pure and simple, as not only the main but also almost the sole cause of the production of species. He rejects sexual selection; he practically rejects use and disuse; he will hear of nothing but the one original true faith in survival of the fittest, alone and unabated. This, he truly says, is pre-eminently the Darwinian doctrine (as opposed to speculations concerning the origin of species), and hence he claims for his book the position of the advocate of "pure Darwinism." It would perhaps be even more correct, however, to call this the Wallacian than the Darwinian doctrine. It is the dogma of Mr. Wallace's own paper, read with his paper before the Linnean Society, and unmodified since in either direction. Darwin himself from the very first admitted sexual selection, and, to a less degree, functional modification; and each subsequent edition of the Origin of Species showed the gradual widening of his author's mind in the direction of still further comprehension. In that it seems to me, he was right, and his fellow-discoverer wrong. Of course, it is impossible, in the space here at my disposal (fancy really criticising in three or four columns a work of thought!) to express the reasons why I differ on this point from Mr. Wallace; but I think the general drift of my criticism is, that even my opinion for many years past has steadily set the other way. At first Darwin and everybody else, delighted with the new key, attempted to make it open all locks at once. Gradually, as one problem after another arose, it became evident that fresh worlds must be added, fresh modes of unfastening hidden bolts supplied. Even the most biologists looking to the extraordinary complexity of organic life, will be tempted to say, "Darwin, indeed, gave us a master-key in natural selection—a master-key to the problems we then saw; but innumerable subsidiary keys are still needed, and each of these we must accept thankfully as helping us to solve the remaining problems which survival of the fittest hardly touches and the mental selection is powerless to unlock." In another century, I fancy, endless new factors in evolution which escape us now will be added to the three or four main ones—natural selection, sexual selection, use and disuse, direct action of environment—which we now possess.

In other points, such as his continued objections to the natural evolution of man's mental faculties, his rejection of aesthetic preferences in animals, and even his acceptance of Weismann's theory of heredity—it seems to me we can throughout trace the action of a curious a priori tendency in Mr. Wallace's mind. Not that Mr. Wallace himself would admit its action, or seek to generalise any of its presence. He has always excellent induced reasons to give for the faith that is in him. Nevertheless, it is immediately apparent to the outside observer that Mr. Wallace differs, as a rule, from the main stream of evolutionary opinion just in those places where a certain particular preconception would make for conflict. He accepts the evolution and natural selection without prejudice to the immortality of the soul and the great gulf fixed between the animal and the human; just as Prof. Milward accepts them, without prejudice to the teaching of St. Thomas of Aquinon. It would seem as though Mr. Wallace first struck out generalisation of natural selection without fully realising all its implications in the world of mind; and that when he began to feel the vastness of those implications, he tried to hedge by making special reservations in favour of some divine element in the human species. Certainly it is precisely in cases such as these cases mistakenly permit us to see, as one at least of his objections, a reservation of this character. Sexual selection, for example, seems to him to imply an amount of aesthetic faculty in lower animals which he cannot allow to any but the human intelligence. And his fine chapter of the questions as to the origin of human faculty with which we are already familiar in Mr. Wallace's work elsewhere.

The acceptance of Weismann's theory, in particular, how so fashionable among biologists—probably because it comes to us from the comparative obscurity of the theory of Mendelian heredity—is peculiarly unfortunate for the future of the science. The Spencerian doctrine of the inheritance of functionally acquired modifications of structure appears to hold out our only chance of explaining, not merely the origin and development of the nervous system and the mental nature of man, but the historical growth of the artistic and intellectual faculties, the birth of genius, the rise of civilisation, and the very existence of individual character generally. If we take that principle away, it is hard to see how the facts of human life can be accounted for at all. Weismann does take it away, and takes it away wantonly, for no better reason than in order to make out an unverifiable theory, for which no positive facts of any crucial sort can be cited. We are asked to give up a plausible hypothesis which explains and co-ordinates all the phenomena, in favour of an unproved dogma, which reduces them at once to a meaningless chaos. If Weismann's argument were absolutely unsound, then we should be forced with a sigh to accept the
implications—to land ourselves once more in a slough of uncertainty; but so long as its basis remains in the present condition, we are justified in refusing to burden our minds with so terrible a weight in our pursuit of truth.

Once away from this debatable ground, however, nothing can exceed the rigorous logic of Mr. Wallace's reasoning. The book is especially noticeable for three points. In the first place, it contains many new facts and theories of value, often drawn from recent but unfamiliar sources, especially American. In the second place, Mr. Wallace, while ignoring the modern laboratory school of biologists, is never afraid of accepting fresh views, even from quarters usually deemed heretical. And in the third place, he is, as always, a remarkably candid, courteous, and just controversialist. Whether he agrees with any particular writer, or whether he differs, one feels at least throughout that his ally and his opponent alike are being treated with scrupulous fairness and equal courtesy. There is not a word anywhere that even Mr. Samuel Butler could consider harsh or disingenuous. It is impossible to lay down the book without feeling a pleasant consciousness that we have been here in the company, not only of a deep thinker, a finished naturalist, and an acute reasoner, but also of a generous, broad-minded, and honourable gentleman.

Grant Allen.