
 LITERARY NOTICES.

ABOUT EVOLUTION.

DARWINISM. An Exposition of the Theory of Natural Selection, with Some of Its Applications. By Alfred Russell Wallace. London and New York: *Macmillan & Co.*

Among those whose names are most closely associated with the theory of natural selection, the author of this interesting exposition stands foremost next to Darwin himself. Indeed, Mr. Wallace is entitled to the glory of a contemporaneous discovery of the principle. It will be remembered that Mr. Wallace sent to England a paper to be read before one of the scientific societies, formulating the same convictions at nearly the same time as when Darwin first made known his conclusions. Though the full glory of the new departure in scientific thought (for so it is entitled to be called, in spite of the fact that the doctrine of evolution was not in itself new) was not given to Mr. Wallace, his name is indelibly connected with it. The author announces his position in his present book as follows: "I maintain, and even enforce my differences from some of Darwin's views; my whole work tends forcibly to illustrate the overwhelming importance of natural selection over all other agencies in the production of new species. I thus take up Darwin's earlier position, from which he somewhat receded in the later editions of his works, on account of criticisms and objections which I have endeavored to show are unsound. Even in rejecting that phase of sexual selection depending on female choice, I insist on the greater efficacy of natural selection. This is pre-eminently the Darwinian doctrine, and I therefore claim for my book the position of being the advocate of pure Darwinism."

To the old facts and arguments, which are restated and enforced by our author with great clearness, he adds much that is new, which will be of great interest to the reader. In one respect, however, he differs widely from Darwin, and all of Darwin's most eminent followers. In the application of the principle of

natural selection to man, he declines to believe that man's higher intellectual and moral faculties could have developed by the law of evolution. They must have had another origin, and this origin, he tells us, must be ascribed to the unseen world of spirit. Just how Mr. Wallace attempts to reconcile the apparent contradiction or break in the chain of reasoning with his firm hold on scientific evolution, space will not allow us here to explain, and we must refer the writer to the book itself. To those inclined to believe in Darwinism, and yet reluctant to let go their hold on Theism, the argument of the ingenious author will be immensely significant and suggestive.

Without alluding to the numerous matters of interest which crowd the pages of this volume, we shall content ourselves with referring to his opinions on what he calls the ethical side of that struggle for existence, which is one of the fundamental bases of the doctrine of evolution, which Spencer has named the "survival of the fittest."

He does not believe in the suffering of animals, but asserts that their torments and miseries "are the reflection of the imagined sensations of cultivated men and women." He illustrates his thesis with many illustrations drawn from wide observation and study. He asserts that the torments of anticipation, for example, are unknown to the animal world; and that the violent death, which comes to the majority of animals alike in the cultivated and wild state, is painless unless it is prolonged.

"As a rule," he says, "animals come into existence at a time of year when food is most plentiful and the climate most suitable; . . . they grow vigorously, being supplied with abundance of food; and when they reach maturity their lives are a continual round of healthy excitement and exercise alternating with complete repose. . . . This normal state of happiness is not alloyed, as with us, by long periods—whole lives often—of poverty or ill-health, and of the unsatisfied longing for pleasures which others enjoy, but to which we cannot attain."

While there is much truth, probably, in Mr. Wallace's contention, we think he carries his statement too far. It is impossible for man to clearly define the limits of the intelligence of the higher order of animals and to set a bound, we will say, for example, to that premonition of suffering which occasions in man as much agony as the thing itself. Any observer of canine life will remember innumerable cases of suffering in dogs entirely separate from any physical pain at the time, and a clear anticipation, shown by all the signs of fear, of an impending shock or blow. We hold it impossible for a man to reason accurately on the subject, as the facts must of necessity be largely indeterminate.

Though the intelligent reader will find, probably, much to differ from in Mr. Wallace's exposition, it will be for all such a most stimulating and delightful work. Certainly no scientific writer has set forth the principal points of Darwinism with more brilliant and convincing clearness, or has thrown more light for the ordinary understanding on phases of the question which are obscure and difficult to grasp. It is only proper to call attention to the style of the author, which is simple, bright, and vivid, a model for the scientific expositor. Mr. Wallace has that most desirable of all gifts for the scientist, a powerful and well-ordered imagination, which shows itself not only in its higher uses, but in the charm which it lends to presentation.