

## Reviews

## A Heterogeneous Mixture

THE WONDERFUL CENTURY. New Edition, revised and largely re-written. By Alfred Russel Wallace. (Sonnenschein. 7s. 6d. net.)

DR. WALLACE hardly gives himself a chance. He has not finished his preface ere he is tirelessly chasing a will-o'-the-wisp as of yore. From this new edition he has omitted the ludicrous chapter on vaccination, which is to be re-published in pamphlet form. "I may state here," he says, "that during the five years it has been before the public it has never been replied to, nor have any of the facts or the arguments demonstrating the uselessness of vaccination been proved to be erroneous." It has been replied to a thousand times and in a thousand ways. Among the latest answers are Dr. Garrett Anderson's figures, in which she shows that, in a large series of cases of small-pox under seven years of age, consisting mainly of vaccinated children, there were over three hundred deaths amongst the unvaccinated minority and *not one* in the protected majority.

The vaccination chapter has disappeared to make way for four new chapters on astronomy, but, unfortunately, the book gains nothing in truth thereby. For Dr. Wallace uses the space thus gained mainly to support his recently promulgated theory as to "Man's Place in the Universe." This is really a vast pity, for the book as it now is, but without these chapters and the assertive preface, would have been a quite worthy exposition of several features of the nineteenth century. This is not the time to discuss Dr. Wallace's cosmological views, as they are to be set forth at length in his new book which is to be published next week.

There have been indicated above the outstanding differences between this new edition and its predecessors, so that the many former readers of the book may be informed. But there is much else that is of the first interest. In the very short and inadequate chapter on Evolution, Dr. Wallace describes the circumstances that led up to his independent recognition of "the survival of the fittest." Though Darwin and Spencer had reached this truth years before, Dr. Wallace's name will permanently be remembered for his connection with it; and it is of the first interest to know that Malthus gave the key alike to Darwin and to our author. These two autobiographical pages (380-381) cover a multitude of sins elsewhere.

Under "Successes" Dr. Wallace deals, in the main, with subjects such as Locomotion and Photography, to his exposition of which the excellent printing of this volume, the numerous and well-chosen illustrations, and his power of clear and attractive disquisition lend much success and charm. Split infinitives and so forth apart, however, there are still some errors which it is perhaps worth while to point out. "Xeon" for "neon" (one of the new atmospheric gases discovered by Sir William Ramsay) is a mere slip, of course. Dr. Wallace states that the Röntgen rays cannot be polarized, though M. Blondlot succeeded in doing so in the early part of this year; and it is not the case that "their exact nature is still unknown." It is also a pity that Dr. Wallace should have retained his account of the "phagocytic" function of the white blood corpuscles, an account which had been proved incorrect long before the original edition of this book appeared. We have all heard by now of Professor Metchnikoff's pretty theory: that the white cells are the policemen and scavengers of the blood, protecting us from evil germs by the effective method of gobbling them up. As a matter of fact the thing is not half so simple. Our protection is obtained by the production within us of a substance exactly

analogous to vaccine-lymph, and produced by the body cells in exactly the same way. Professor Metchnikoff himself and Dr. Wallace are now alone in their adherence to the long-exploded view. After the process of self-vaccination, so to speak, has been accomplished, and the invading germs have thereby been killed or paralysed, the white blood cells come up and consume them. Till then, they keep discreetly in the background. Also it is not correct to say that the white cells are "much smaller" than the red ones; the reverse is the fact, as anyone who has ever seen a blood-film through the microscope will remember. This is the sort of error that crops up so frequently in these pages that it needs an effort to write seriously about them. And why should it be said in 1903 that part of the anti-septic method is "filling the air around the part operated on with a copious spray of carbolic acid"? The carbolic spray must have been abandoned for nearly a quarter of a century.

Part II. consists of "Failures," and Dr. Wallace begins with the "Neglect of Phrenology" and the opposition to Psychical Research. As to the first subject, which is one of the very greatest interest, there is obviously no room here to discuss Dr. Wallace's views. Suffice it that he believes in the whole sorry business, and quotes tables showing that an unfortunate lunatic in 1835 had "animal organs large" according to the phrenologist, whilst the asylum superintendent called him a "bad character." Now if there is anything at all in which we have made headway in the last few years, it is in cerebral physiology. Amongst other things we know for certain that Gall and the rest of them were wrong in attributing "animal" functions to the back of the brain—which they did largely on the grounds that Kant, who had a small cerebellum, was by way of being a misogynist! If Dr. Wallace will read Professor Symington's Presidential Address before the Section of Anthropology of the British Association this year, he will learn that there is every prospect of our one day having a true phrenology, and he will also, perhaps, find reason to modify a few of his statements. For instance, he states, as "now forming part of recognised science," that "the front of the brain is the seat of our preceptive (*sic*) and reflective faculties; the top, of our higher sentiments; the back and sides, of our animal instincts . . . almost all physiologists admit that this general division of brain organs is correct." There is not a single physiologist in any university, college, or board school that would admit even the approximate correctness of this statement. We see with the back of the brain, we speak with the side of it, and so forth. It is seriously to be questioned whether Dr. Wallace has any right to assert that a series of silly mis-statements are "part of recognised science."

After this sort of thing it is difficult to appreciate the true feeling and power of the author's protests against militarism and the "Demon of Greed." What a pity to have given us such a heterogeneous mixture!

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