

isolation, and never being tied down as many men are by professional or official custom and etiquette, he has always been recognized as an independent. Orthodoxy is not peculiar to the church; it is a tendency common to all organizations, and in a large measure necessary for their continuance. At the same time, it is a perpetual obstacle to progress, and the heterodox are the true prophets of the dawn. Dr. Wallace has lived to see part of his once heterodox opinions become orthodox, while others are still rejected by the majority as unworthy of consideration. Consequently, to the ordinary "well-behaved" scientist, he seems to be a sort of double personality, a mixture of genius and absurdity.

In the case of any man of great intellectual power, it is not to be expected that all his opinions will be justified by subsequent knowledge. Darwin was undoubtedly in error in respect to certain matters; and presumably the same will have to be said of Wallace. But this should not blind us for a moment to the immense service performed, or should we hastily assume that the opinion of the day is correct. I recall a little matter which well illustrates Dr. Wallace's power of reasoning, and at the same time the shortsightedness of naturalists. Some fifteen years ago there was in preparation a new edition of "Island Life," in which Dr. Wallace discussed the animals of the British Islands, and argued that there ought to be some species and varieties peculiar to Britain. Lists of supposed peculiar forms were prepared, but zoölogists and botanists were alike skeptical. Some were "probably not distinct," others "would certainly be found on the continent." The general attitude was one of incredulity or even contempt. Since that time, however, particular groups have been studied much more carefully than ever before (following the methods introduced by certain American naturalists), and although it is true that some of the kinds formerly listed must be stricken out, a whole series of insular forms has been detected among the mammals, which were supposed to be "perfectly known"! Only last year, even, a very distinct new species of mouse was recorded. Dr. Wallace has thus been justified beyond his expectations, and when the same careful methods are applied to the whole of the British fauna and flora, the results will no doubt be such as would make the orthodox nineteenth-century naturalist stare.

I refer to this matter, because I have some personal knowledge of it, and because it shows

#### THE DOYEN OF ENGLISH NATURALISTS.\*

The Victorian age, whatever its shortcomings, will always be remembered for the brilliancy of its scientific achievements. What the twentieth century may have in store for us, it is too early to predict; but it is difficult to believe that anything will be accomplished more important for intellectual progress than the establishment of the doctrine of evolution on a scientific basis. This great work is justly credited to Darwin, but with his name must always be linked that of Wallace, who independently thought out the theory on which Darwin's work is based.

Dr. Wallace occupies a unique position among scientific men. Born in 1823, he has not only witnessed great changes in scientific opinion, but has had a large share in bringing them about. Living most of his life in comparative

\*MY LIFE. A Record of Events and Opinions. By Alfred Russel Wallace. In two volumes. Illustrated. New York: Dodd, Mead & Co.

how facts which are perfectly evident when brought to light, may remain undiscovered beneath our very noses.

Probably the most objectionable of Dr. Wallace's opinions, in the eyes of orthodox science, are those relative to spiritualism. Without knowing anything particular about the matter, most people will exhaust their language of abuse upon this subject. Those scientific men who reject the whole body of evidence are proclaimed as sound of mind, though their methods of research may have been such as would be called ridiculous if applied to any other subject. Those who become convinced that there is something not explained by known "laws of nature" are held to have "a screw loose somewhere," though they may be known masters in research, such as Crookes, Oliver Lodge, William James, and Wallace. It is perfectly evident, and thoroughly recognized by all those who have given much attention to the matter, that the laws governing spiritual existence cannot at present be defined. It is held that the "supernatural" is as "natural" as anything else, but it is confessedly difficult to comprehend. Some day, perhaps, there will arise a Darwin of spiritualism, who will put the whole subject on an intelligible basis; and then it will be seen that we were groping in the dark before like the pre-Darwinian evolutionists.

It will be clear to the reader that the life of such a man as Wallace cannot fail to be of surpassing interest. Like Herbert Spencer, he has chosen to present it to us in considerable detail, and with absolute frankness. In it, we trace the development of generalizations from apparently trivial beginnings, and are presented with a picture of past times, which seem now so remote as to be almost prehistoric. There is a good deal of matter in the book which does not strike one as being particularly valuable or important; but on the other hand, the variety of subjects discussed, and the wide human interests of the author, cause it to appeal to a far larger circle than the usual biography of a man engaged in the investigation of technical matters. The splendid courage and honesty exhibited cannot fail to be inspiring, even to those who do not agree with the views advocated. They teach a lesson which is sorely needed by the present generation, with its altogether too slavish subservience to the powers that be. It is interesting to find that with all this, there went a shyness and timidity in the presence of others, which was never quite overcome. In discussing certain humiliating and ill-suited punish-

ments of childhood, attention is called to the right of each individual to have his personality respected, even in blame. It is remarked that this is far better recognized in China and Japan than with us.

"With them this principle is taught from childhood, and pervades every class of society, while with us it was only recognized by the higher classes, and by them rarely extended to inferiors or to children. The feeling that demands this recognition is certainly strong in many children, and those who have suffered under the failure of their elders to respect it, can well appreciate the agony of shame endured by the more civilized Eastern peoples, whose feelings are so often outraged by the total absence of all respect shown them by their European masters or conquerors. In thus recognizing the sanctity of this deepest of human feelings these people manifest a truer phase of civilization than we have attained to. Even savages often surpass us in this respect." (Vol. 1, p. 62.)

The author's travels in South America and the Malay Archipelago are not described at great length, because he long ago published books about them. The best part of his South American collection was lost through the burning of the ship on the homeward voyage, of which a graphic account is given. Only some drawings of palms and fishes were saved; the latter have recently been examined by a specialist, and it turns out that many of the species have never been obtained again to this day. A short chapter is devoted to the memory of H. E. Wallace, a brother of Dr. Wallace, who went out to Brazil to assist him in his work, and died of yellow fever at Para. Herbert Wallace was not a naturalist, but was very fond of writing verse, and several of his productions are printed. In one of them we find the lines:

"For here upon the Amazon  
The dread mosquito bites —  
Inflames the blood with fever," etc.

At that time, of course, it was wholly unknown that the mosquito carried the germ of yellow fever; but these lines seem curiously prophetic.

The journey to the Malay region was more successful from every point of view. The materials obtained were enormous, including almost innumerable new species. Some of the insects have not been described yet, from the lack of specialists to study them.

Although Darwin and Wallace might have been considered rivals, the fact that they had independently worked out the same theory never led to anything but warm friendship between them. Each always tried to give the fullest credit to the other, and Wallace called his book on the theory of evolution "Darwinism." Stress has sometimes been laid on the fact that Wallace disagreed with Darwin about several matters;

these are discussed fully in the *Life*, but it is shown that they were insignificant in comparison with the great and fundamental agreement. Darwin's last letter to Dr. Wallace is given, and the latter adds this interesting comment:

"This letter is to me, perhaps, the most interesting I ever received from Darwin, since it shows that it was only the engrossing interests of his scientific and literary work, performed under the drawback of almost constant ill-health, that prevented him from taking a more active part in the discussion of those social and political questions that so deeply affect the lives and happiness of the great bulk of the people. It is a great satisfaction that his last letter to me, written within nine months of his death, and terminating a correspondence which had extended over a quarter of a century, should be so cordial, so sympathetic, and broad-minded." (Vol. 2, p. 15.)

In 1886-7 Dr. Wallace visited America, travelling from the Atlantic to the Pacific. He gives a full account of his experiences, with many observations on matters biological and sociological. I should like to quote his conclusions at some length, but it is impossible in a short notice. While enthusiastically admiring the grandeur and beauty of the Rocky Mountains, the Californian Sierras, and other regions, and fully appreciating the good qualities of America and Americans, he deplores the spread of sordid commercialism, and the way in which man has in so many places destroyed the beauty of nature. The same is true in England, he says: "Both countries are creating ugliness, both are destroying beauty; but in America it is done on a larger scale and with a more hideous monotony" (p. 198.)

The book is well illustrated; but one cannot help wishing that instead of some of the plates which have little to do with the narrative, or little intrinsic value, we could have been favored with portraits of some of the great naturalists with whom the author was associated,—such, for instance, as Bates and Spruce.

T. D. A. COCKERELL.

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