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The Creed of Dr. Russel Wallace.

The promised work of Dr. Alfred Russel Wallace is now in our hands, and few who are interested in the serious discussion of religion will fail to study with respect this definitive expression of the creed of a distinguished man of science who is, at the same time, a distinguished Rationalist. Rationalism imposes no dogmas. It is the cult of a method of inquiry. It has rolled the heavy burden of a despotic authority from the mind of a large part of our generation, and led the enfeebled judgment in the attainment of conclusions more consonant with the culture of our time. It is inevitable that those of us who pursue the rational method should at times differ in our conclusions, but the very nature of our method gives us some security that we shall differ without the bitter acrimony which religious differences involved in pre-Rationalistic days, and that, as our knowledge increases, we shall draw yet closer to even intellectual agreement.

Dr. Wallace is an honoured and able representative of what one may call the modern school of rational theology. When the obsolete creeds which paralyse our churches today have become a mere matter of history, the religious controversy will be as keen as ever, though distinguished by a higher morality. Even the most thoughtful men and women will differ for ages to come on the question whether the universe is controlled and guided by a supreme intelligence. Among our abler scientific men of to-day we see the promise of this continued divergence of opinion. Christianity indeed is dead in the world of culture—whether scientific or other culture. At the outside a dozen names out of three hundred leaders of culture in Great Britain might be quoted as willing to subscribe to the Apostles' Creed, and the posthumous revelations of the real sentiments of such men justify us in regarding their present professions with some reserve. Christianity has become "paganism"—the religion of the villagers. But the fundamental theistic issue remains. One may quote for it, not only such men as Sir Oliver Lodge and Dr. Wallace, whose minds may be regarded as biassed by spiritualism, but such able and alert biologists as Professor J. A. Thomson and Principal Lloyd Morgan. Their reasoned conviction warns us that, when the whole doctrine of evolution, and even the eternity of the material universe, have been accepted, the question of a guiding intelligence will remain open.

The most curious feature of the situation is that the abler adherents of this advanced natural theology seem reluctant to put their creed in any fullness before the public. One cannot wonder at the blunder of those who say at times that almost all our scientific men are Agnostics; but the larger blunder of those who, like Sir Oliver Lodge, say that the "wave of materialism" has passed, and men of science are "returning" to religion, is not so easy to understand. Nothing in the whole zealous campaign of Sir Oliver Lodge has been so remarkable as his splendid isolation. The spring-time of this new religious revival has consisted of one swallow. Dr. Lionel Beale complains bitterly of his own isolation in the world of physiology. Dr. Wallace candidly acknowledges that he is alone in the field of natural history. Sir W. Crookes has virtually deserted Sir O. Lodge in the region of physics. And Lord Kelvin's slender and obscure creed died with him. In these circumstances the extreme Rationalist will find all the consolation he seeks without attempting to penetrate the reticence of the vast majority of our men of science.

Dr. Russel Wallace is one of the outspoken advocates of a liberal theism, and has now offered us his mature convictions on the subject.* Candidly, we should have preferred a differently-proportioned work from the one he has given us. The first third of the volume, with its generally crude illustrations, might have been omitted without loss to his argument, while the more critical points of the argument needed fuller elaboration. We traverse with pleasure a series of powerful chapters in defence of Darwinism and in refutation of Mendelism, wondering where the supreme intelligence can possibly intervene, and then find it suddenly intruding in a very superfluous fashion. We could wish, too, that Dr. Wallace had omitted his numerous and unfortunate references to Professor Haeckel. Haeckel's book does not "claim to be a solution of the riddle of the universe" (p. 8), but on the first page expressly disclaims it; and his doctrine of unconscious soul is a perfectly legitimate way of saying that the mind or soul of man is identical in kind with every other complex of energies in the universe. However, let us summarise Dr. Wallace's general argument before examining it.

The argument is Paleyism reconciled with evolution. The chief part of the work is a summary review of the life-story of the earth; and the specific observation, which occurs throughout, is that each succeeding phase, which plainly prepares the way for a higher phase of life-development, must be regarded as the outcome of a foreseen design, and produced by guided agencies. Life appears in the pre-Cambrian age, when the conditions are at length suitable for it. In Dr. Wallace's view this fitness of the earth must have been deliberately achieved, and certain spiritual intelligences, acting under the control of the supreme intelligence, directed the elements in their evolution and produced the first germs of life. Then the land must be prepared for the higher development of life. The great forests of the Carboniferous age must overspread the earth, and purify the atmosphere for the breathing of finer organisms. Dr. Wallace sees in them an evidence of design and control. The plant-world must be refined and improved, and the monstrous reptiles of the Secondary Period with small brains are providentially introduced on the scene. That the birds may appear, for the later delight of man, an insect-world must arise, and it arises at the opportune moment. The world is now ready for the mammal, which has been lingering in the wings, as it were, since the

* *The World of Life.* (Chapman and Hall.) 400 pp. 12s 6d. net.

Permian period: Dr. Wallace sees a mysterious significance in their long hesitation to overrun the earth. But cattle, dogs, etc., must be developed, flowers and the more useful and valuable plants must appear, the useful and precious metals—even the materials of glass—must be brought into position, before man's triumphant career is possible. Dr. Wallace is forced to see in each preparatory stage, even in the locating of iron and of the material of glass, the action of intelligence.

This is the main argument of the work. Of the subsidiary considerations I have space to notice only one of the most important. It is contended that the forces at work within the organism show just as cogent evidence of the action of mind. Neither mechanical nor vital forces can explain the building of the intricate frame from a germ, and the selection of the necessary material out of the blood by the various tissues of the body. Even the structure and growth of a feather are held to be quite inexplicable unless we admit the operation of intelligence. Thus the whole past and present of the earth, the agencies at work in nature and in the living frame, bear witness, in Dr. Wallace's view, to the continuous and unceasing control of matter by disembodied intelligences.

It will be seen that the only element of novelty is the introduction of subordinate intelligences into the work, and the very daring and extensive application of the argument. Both of these elements seem to weaken, instead of strengthening, the new Paleyism. To most of us it always seemed that the introduction of intelligence into the working of nature merely put a fresh and a hopeless mystery, instead of what might be a temporary obscurity. What *is* disembodied intelligence? How can it act on matter? The moment you reflect on it you are confronted with a long series of mysteries which no advance of scientific research will ever penetrate; while the advance of research may conceivably remove the obscurity which these mysteries set out to "explain." As long as the theologian offered us an *infinite* power, the mysteriousness of the supposed action was plausible enough, though never in the least explanatory. But this hierarchy of spirits, which Dr. Wallace assumes, not only explains nothing, but itself would require very considerable explanation.

The average person will probably find it more reasonable to be content with the original obscurity, and trust that the advance of science will throw light on it. Dr. Wallace's argument very glaringly exposes its weakness. It rests on two fallacious principles. The first is the very familiar fallacy, which surprises us in a man of science, that phenomena which we cannot at present explain must be attributed to spirits. Of that nature is his contention that the cells are "guided" in the construction of the body, and in selecting their proper nourishment from the blood. The contention is thoroughly unsound in principle, and its application has been discredited innumerable times. We have, confessedly, a most imperfect knowledge of natural processes, and we are weary of the practice of assuming them to be supernatural until they are proved to be natural. The whole trend of science is towards a mechanical interpretation of such processes. Indeed, we may go further and say that progress is being made in the natural explanation of those very phenomena to which Dr. Wallace appeals. His work does not show the least acquaintance with the recent literature of the subject. In Germany and the United States especially, these cellular processes are being mastered, and Dr. Wallace's claim that they cannot be explained without intelligent guidance could not be entertained seriously by one who is well acquainted with recent embryology and physiology.

The weakness of the book is even more patent in its main argument: that the processes of nature were guided, on a preconceived design, to prepare the earth for man. Dr. Wallace is too competent a student to admit the fallacy that, because certain processes had to precede the appearance of man, they were deliberately designed with that end in view; but he comes perilously near it when he urges us to see spiritual action in the production of insects and flowers, or the location of iron or aluminium. Even if the science of our time could not explain why the pre-Cambrian ocean cooled to the requisite point for the reception of life, why water and carbon are found in such abundance at the surface of the planet, why the coal-forests arose and the great reptiles followed them, and why the mammals did not flourish before the Tertiary period, no theistic inference could be drawn. The science of to-morrow might explain them, and the poor theologian would skip to fresh obscurities, as he has been doing for a century.

But it may be strongly affirmed that the majority of the processes for which Dr. Wallace demands an intelligent guidance are already wholly or partially explained. He strongly censures Haeckel for avoiding particular difficulties in the *Riddle*. He has evidently not noticed how Haeckel has faced them in the proper place—his larger works, the *Natural History of Creation* and *Systematische Phylogenie*; but he makes no reference whatever to recent literature concerning them. I do not think he would have the support of a single palæobotanist of our time in contending that the spread of the coal-forests and the clearing of the atmosphere were in the least degree outside the range of the unconscious processes of nature. He quite ignores the enormous influence of the rise of mountain-chains at critical periods, and the natural explanation of that rise given, say, by Professor Sollas. He says not a word of the remarkable changes of climate which favoured the monstrous reptiles with small brains, and kept the mammal and bird in the background. He passes in silence the fresh geological revolution which puts an end to the reptiles and inaugurates the age of mammals and birds.

These few points will suffice to show that Dr. Wallace's book is hardly likely to make a favourable impression on students of science. He is not sufficiently acquainted with the vast amount of explanatory work done in recent years, and, even if he were, his argument would still be unsound. As long as science can explain that a certain phase of cosmic evolution arises necessarily out of the preceding phase, there is no room for "guidance." As long as physiology can show that a certain function or structure follows inevitably upon a certain other function or structure, there is no room for intelligence. This has already been done to an enormously greater extent than Dr. Wallace supposes, and for the rest we may trust the science of to-morrow. Like the creed of Sir O. Lodge—from which, however, it profoundly differs—the creed of Dr. Wallace is an interesting personal expression, and will find hardly a single adherent among his colleagues throughout the world.

JOSEPH MCCABE.