

# THE BOOK OF THE MONTH.

## A NEW "PARADISE LOST" AND "PARADISE REGAINED."

"THE WORLD OF LIFE." BY ALFRED RUSSEL WALLACE.\*

IN the second half of the seventeenth century John Milton, amid the wreck and apparent ruin of the great cause for which Cromwell had won a short and ever-memorable triumph, solaced himself by composing the greatest of English epics. In "Paradise Lost" he deliberately essayed one of the greatest tasks which was ever attempted by mortal man. For the height of his great argument was nothing less ambitious than to

assert eternal Providence,  
And justify the ways of God to man.

In "Paradise Regained" the poet in minor measure

recovered Paradise to all mankind,  
And Eden raised in the waste wilderness.

FROM MILTON TO WALLACE.

It may seem to some a far cry from Milton to Alfred Russel Wallace—further, perhaps, than from the seventeenth century to the twentieth. But the latest task of the Grand Old Man of English Science is in its essence identical with the epics of Milton. Both handle the same sublime theme. The poet in his own sacred vocation was not more truly inspired in his vision of Heaven and Hell than the scientist in his survey of the actual world. Milton's starting-point was that of the theologian, and on the mighty wings of his imagination he sweeps through æons of unrecorded time and reveals worlds not realised before to our awestruck gaze. Wallace's starting-point is that of the naturalist. Not on the wings of the imagination, but on the sure and steady feet of the trained observer he traverses æons of time not less vast and creates from the fossil fragments of extinct races and the stray footprints of long-vanished saurians an awe-inspiring picture of a world in process of evolution. Poet and scientist, however different their starting-point and diverse their methods, arrive practically at the same conclusion. They both, with assured conviction and passionate earnestness, employ the utmost resources of their genius in asserting eternal Providence and in justifying the ways of God to man.

THE NAZARETH OF SCIENCE.

If forty years ago the timorous orthodox had been told that out of the heart of the scientific camp the twin discoverer of Darwin's epoch-making law would produce to the world the most uncompromising, the most emphatic, and the most closely reasoned demonstration of the eternal reality of a Divine

maker, sustainer and director of the universe, they would have cried in scorn, "Can any good thing come out of Nazareth?" But Jesus came out of Nazareth, and "The World of Life" appeared last month as the mature fruit of Alfred Russel Wallace's scientific intellect. There is no Bridgewater Treatise more thorough-going, nor are "Paley's Evidences" half so convincing. It is a new and more scientific Genesis, and a new and more comprehensible Apocalypse—a Gospel of good news indeed, and a Revelation thrice welcome to the human race.

HELLS NEW AND OLD.

It is a sombre but indisputable truth that many of the earlier evolutionists imagined that the doctrine of natural selection and the survival of the fittest by the elimination of the unfit had not merely dethroned God and demolished Revelation, but had afforded mankind scientific proof that the actual world in which we lived was little better than one vast Hell. The old theological Hell had no sooner grown dim and incredible than these prophets of the scientific era replaced it with an up-to-date Inferno, equally eternal, equally purposeless, and much more tangible and palpable. In many respects the new Hell was worse than the old. The latter at least postulated the existence of God, and no being was believed to be consigned to torment excepting those whose doom had been pronounced by a Judge whose love no one presumed to question, and whose wisdom and justice rendered mistake impossible. But the new Hell of Haeckel, Huxley, and their congeners had no place for a Deity, although perhaps it might have found accommodation for a devil. The victims who suffered its unending torments were not guilty sinners expiating their offences. They were innocent and unoffending creatures, brought into existence to suffer, and not permitted to die until they had passed on the eternal heritage of wanton and purposeless agony to their successors.

THE HELL OF HAECKEL.

Thus the earth itself became a Hell in which the whole creation groaned and travailed in fierce agony, world without end. Huxley said that if our ears were sharp enough we should hear, thousands of times a minute, sighs and groans of pain like those heard by Dante at the gate of Hell. Nature, red in tooth and claw, seemed to shriek with red ravin against the belief in a beneficent Creator. There was no God, or, if there were a God, he was an omnipotent fiend, who had created this world as a Hell of never-ending purposeless torture for all sentient things. That, in brief, was the desolate and comfortless doctrine of nineteenth

\* "The World of Life: a Manifestation of Creative Power, Directive Mind, and Ultimate Purpose," by A. R. Wallace. Illustrated. 408 pp. (Chapman and Hall. 12s. 6d. net.)

century materialism. "The teaching of Haeckel that the universe had no designer or creator, but has always existed, and that the life pageant with all its pain and horror has been repeated cycle after cycle from eternity in the past, and will be repeated in similar cycles for ever," still commends itself to many minds which revolt against the theological Hell as unthinkable.

#### DEMOLISHED BY WALLACE.

Against this gloomy pessimism Dr. Alfred Russel Wallace raises the standard of victorious revolt. Against the conception of the world as a Hell in which pain exists perpetually and uselessly he sets forth a theory that pain is strictly limited and that its beneficial results are eternal. His new book is as inspiring and stimulating as the morning breeze that heralds the rising sun. Never was there so convinced and so thorough-going an optimist. His chapter "Is Nature Cruel?" might be read with advantage from every pulpit. Pain, according to Dr. Wallace, is one of the essential factors of evolution. It was developed in the animal world for a purpose, and is always strictly subordinated to the law of utility, and, therefore, is never developed beyond what is actually needed for the preservation of life. He argues with great force that it is preposterous to imagine that the lower animals suffer as acutely as we do ourselves. Our extreme sensibility to pain is necessary for our survival.

#### "IS PAIN CRUEL?"

Where, as in the case of X rays, pain is not developed, irreparable injury is often inflicted before the danger is discovered. "The probability is that there is as great a gap between man and the lower animals in sensitiveness to pain as there is in their intellectual and moral faculties." "The essence of Darwinism," says Wallace, "is that no organ, no sensation, no faculty arises before it is needed or in a greater degree than it is needed." To endow a worm or an oyster with the acute sensitiveness of a highly developed mammal would have been fatal to its survival. In order to be fit to survive, man needs to be keenly sensitive to pain. But in order for the majority of created things to survive long enough to fulfil their destiny, propagate their kind, and be eaten, they need not suffer pain at all. Even the process of being eaten need not necessarily involve any pain. "It may even have been not merely absolutely painless, but slightly pleasurable—a sensation of warmth, a quiet loss of the little consciousness they had, and nothing more—a little sleep and a forgetting."

#### THE LIMITS OF SENSITIVENESS.

The sharp fangs and claws and stings with which Nature arms so many of her creatures are to Dr. Wallace as beneficent as the instruments in a surgeon's outfit. Some of them produce anæsthesia, all of them are devised to avoid bungling which might

inflict painful wounds instead of merciful death. In most cases, even from our much higher standard, says Dr. Wallace, death would be rapid and almost painless, hence it follows that the widespread idea of the cruelty of Nature is almost wholly imaginary. Excepting among the highest vertebrates there is no pain, or next to none, any more than there is in vegetables, which also have life.

#### THE NEW HEAVEN AND THE NEW EARTH.

Dr. Wallace, having thus triumphantly disposed of the idea that because death is universal and progress is only possible by the elimination of the unfit, therefore pain is an equally universal process, proceeds to demolish with equal ardour the monist's theory of the purposelessness of existence. We have in this last book of his a restatement in scientific terms of the cheerful optimism of the Apostles and the founders of all the greater religions. To Dr. Wallace's wide-ranging eye the whole of the creation has been a preparation for the evolution of man, and the earth life of man is but a preparation for a future life in which he will be able to realise all the latent potentialities of his infinitely varied character. In place of the Earth Hell of Haeckel and Huxley, Wallace reveals to us a new Heaven and a new earth, of which the earth is the ante-chamber of Heaven. Everywhere the scientist sees law, everywhere evidence of infinite intelligence. But it is seldom the scientist of the nineteenth century ventures to attribute to this all-pervading law a beneficent purpose.

#### THE USES OF THE MOSQUITO.

The book is full of wonderful illustrations of the marvellous ingenuity with which the most apparently useless things are used for the purpose of enabling life to be preserved. Of all created things there are few which seem to be such pestilent nuisances as the mosquito. The devil Beelzebub, the God of Flies, has no more malignant imp in all his diabolical army. Its venomous sting, its almost supernatural ubiquity seem to conflict with any theory of beneficence in its creation and preservation. Surely it may be said a good God would exterminate this tormenting pest. But now comes along Dr. Wallace and explains that the mosquito is one of the most useful of God's creatures. But for it the most beautiful, the most divine of all the creatures which irradiate the world with their beauty and make it melodious with their song might have perished from this planet. The mosquito-guarded preserves of the vast regions in the Arctic are the Paradise of Birds.

#### THE PARADISE OF BIRDS.

On the icy plains of the far North, within the Arctic circle, both in the Eastern and Western hemispheres, the mosquitoes swarm in such abundance that they sometimes obscure the sun like a thunder cloud. Their numbers and the poison of their sting render this enormous region practically

uninhabitable for anything but birds, for mosquitoes cannot bite birds, and the birds revel in a diet of mosquitoes. Paradise Lost has been regained for the feathered creation in the four months of Arctic summer, where they feed and grow fat, rear their young, and enjoy the luxuries of an existence without danger and without want, thanks to the mosquito. The mosquitoes are at once the game and the gamekeepers of this Paradise of Birds. There are as many species to be found on these vast mosquito-guarded plains as in the whole of Great Britain. Nature has provided marvellously for their sustenance, for under the snow, as in a gigantic natural refrigerator, there are preserved ready for immediate consumption the ripe fruits of the previous summer. The moment the snow melts in the warm wind of spring the birds, which begin to arrive from the South in untold millions, find these enormous stores of ripened fruit unlocked by the south wind. Dr. Wallace says:—

What a delight to them all must be this rush northward into a land of perpetual daylight, swarming with the most nutritious food, fruits and berries for the parents, inexhaustible clouds of mosquitoes—which Mr. Seebohm tells us are an especially large kind, with bodies a third of an inch long—and the equal myriads of their larvæ in every little pond or water-hole, as well as quantities of larger worms and larvæ.

#### THE AUTHOR'S AIM AND OBJECT.

Dr. Wallace describes his book as an attempt to summarise and complete his half-century of thought and work on the Darwinian theory of evolution. He has extended the scope and application of the theory so as to show that it is capable of explaining many of the phenomena of living things hitherto thought to be beyond its range. One-fourth of the volume is devoted to a discussion of the detailed distribution of plants and animals. He shows us natural selection actually at work, continually perfecting that wonderful co-adaptation of the most diverse forms of life which pervades all Nature. In his chapter upon Recognition Marks, which is full of interesting and suggestive facts, he says:—

I have arrived at the somewhat startling conclusion that the exquisite variety and beauty of insect-colouration and marking have *not* been developed through their own visual perceptions, but mainly—perhaps even exclusively—through those of higher animals. I show that brilliant butterflies do not, and almost certainly *cannot*, recognise each other by colour, and that they probably do not even perceive colour at all except as to a certain extent presenting visual differences.

#### WHAT IS LIFE?

After a general review of the geological record and a discussion of the various problems arising out of it, Dr. Wallace then embarks upon a discussion of the nature and causes of life itself, more especially of its most fundamental and mysterious powers, growth, and reproduction. In the passage which he quotes from Alphonse de Candolle as a motto to his book, he says every minute unit cell, from which all living things originate, does not contain the ulterior product, but is endowed with, or accompanied by, a force which

provokes and directs the formation of all later developments. What is life? Dr. Wallace replies:—

Life is that power which, primarily from air and water and the substances dissolved therein, builds up organised and highly complex structures possessing definite forms and functions. These are preserved in a continuous state of decay and repair by internal circulation of fluids and gases; they reproduce their like, go through various phases of youth, maturity, and age, die, and quickly decompose into their constituent elements. They thus form continuous series of similar individuals; and, so long as external conditions render their existence possible, seem to possess a potential immortality.

#### LIFE IMPLIES GOD.

That, however, does not carry us very far. To explain life and the phenomena of life it is necessary to postulate God. Dr. Wallace asserts—

the absolute necessity for an organising and directive Life-Principle in order to account for the very possibility of these complex outgrowths. I argue that they necessarily imply, first, a Creative Power, which so constituted matter as to render these marvels possible; next, a directive Mind, which is demanded at every step of what we term growth, and often look upon as so simple and natural a process as to require no explanation; and, lastly, an ultimate Purpose, in the very existence of the whole vast life-world in all its long course of evolution throughout the æons of geological time. This Purpose, which alone throws light on many of the mysteries of its mode of evolution, I hold to be the development of Man, the one crowning product of the whole cosmic process of life-development; the only being which can to some extent comprehend Nature; which can perceive and trace out her modes of action; which can appreciate the hidden forces and motions everywhere at work, and can deduce from them a supreme and over-ruling Mind as their necessary cause.

The whole of the latter portion of the book is devoted to an examination of the evidence in favour of this supremely important conclusion. None of the chapters in the whole of this interesting volume will be read with more interest and more satisfaction than that upon "Is Nature Cruel?" to which I have already referred. His chapter on birds and insects as proofs of an organising and directive life-principle, his chapter on the general adaptation of plants, animals, and man, and his mystery of the cell are full of evidence of prolonged thought, careful observation, and earnest conviction.

#### THE REVIVAL OF ANGELOLOGY.

It is impossible in this brief space in a popular review to attempt to deal with the scientific problems which Dr. Wallace discusses with the authority of a master and with the modesty of a true scientist. It is more within my *métier* to call special attention to the remarkable speculations with which Dr. Wallace brings his book to a conclusion. This again recalls us to the comparison which, at the opening of this article, I drew between Milton and Wallace. For as Milton's imagination filled both heaven and earth and hell for us with visions of mighty angels, fallen and unfallen, so Dr. Wallace in his concluding chapters resorts to the hypothesis of an angelic hierarchy in order to explain how the indefinite source of all life is brought to bear upon the World of Life. He says:—

My first point is, that the organising mind which actually

carries out the development of the life-world need not be infinite in any of its attributes—need not be what is usually meant by the terms God or Deity. If, as I contend, we are forced to the assumption of an infinite God by the fact that our earth *has* developed life, and mind, and ourselves, it seems only logical to assume that the vast, the infinite chasm between ourselves and the Deity is to some extent occupied by an almost infinite series of grades of beings, each successive grade having higher and higher powers in regard to the origination, the development and the control of the universe . . . He might, for instance, impress a sufficient number of his highest angels to create by their will-power the primal universe of ether, with all those inherent properties and forces necessary for what was to follow. Using this as a vehicle, the next subordinate association of angels would so act upon the ether as to develop from it, in suitable masses and at suitable distances, the various elements of matter, which, under the influence of such laws and forces as gravitation, heat, and electricity, would thenceforth begin to form those vast systems of nebulae and suns which constitute our stellar universe.

#### A SCIENTIFIC THEORY OF ANGEL MINISTRY—

Then we may imagine these hosts of angels, to whom a thousand years are as one day, watching the development of this vast system of suns and planets until some one or more of them combined in itself all those conditions of size, of elementary constitution, of atmosphere, of mass of water and requisite distance from its source of heat, as to ensure a stability of constitution and uniformity of temperature for a given minimum of millions of years or of ages, as would be required for the full development of a life-world from Amœba to Man, with a surplus of a few hundred millions for his adequate development . . . We are led, therefore, to postulate a body of what we may term organising spirits, who would be charged with the duty of so influencing the myriads of cell-souls as to carry out *their* part of the work with accuracy and certainty. In the power of "thought-transference" or mental impression, now generally admitted to be a *vera causa*, possessed by many, perhaps by all of us, we can understand how the higher intelligences are able to so act upon the lower and that the work of

the latter soon becomes automatic . . . Some such conception as this—of delegated powers to beings of a very high, and to others of a very low grade of life and intellect—seems to me less grossly improbable than that the infinite Deity not only designed the whole of the cosmos, but that himself alone is the consciously acting power in every cell of every living thing that is, or ever has been, upon the earth . . . The vast whole is therefore a manifestation of His power—perhaps of His very self—but by the agency of His ministering angels through many descending grades of intelligence and power.

—CONFIRMED BY SPIRITUALISM.

This sublime conception is what Dr. Wallace unhesitatingly asserts. The conclusions at which he had arrived by scientific deduction he finds confirmed by the positive testimony of those who have returned from beyond the grave to testify as to the reality and the nature of existence in the spirit world. Dr. Wallace, in the concluding pages of this remarkable book, unhesitatingly avows his belief in spirit return, and quotes with sturdy courage Miss Doten's trance address, "Poe's farewell to earth" :—

Gifted with a sense of seeing  
Far beyond my earthly being,  
I can feel I have not suffered, loved and hoped and feared  
in vain.  
Every earthly sin and sorrow I can only count as gain,  
I can chant a grand Te Deum o'er the record of my pain.

Towards "the land of Light and Beauty, where no bud of promise dies," each mortal is progressing, and some time he will get there. That is the message of Alfred Russel Wallace :—

All nature is but art, unknown to thee ;  
All chance, direction, which thou canst not see ;  
All discord, harmony not understood ;  
All partial evil, universal good.