

THE NEW TELEOLOGY

The World of Life. By ALFRED RUSSEL WALLACE, O.M., D.C.L., F.R.S., &c. (Chapman & Hall, 1910.)

The Nature of Personality. By the Rev. WILLIAM TEMPLE, Head Master of Repton. (Macmillan, 1911.)

Life and Matter. By SIR OLIVER LODGE. (Williams & Norgate, 1906.)

Questions of Faith. By JAMES ORR, D.D., and others. (Hodder & Stoughton, 1904.)

IT is an assumption much too easily made by many writers in the fields of Science and Philosophy, that the Argument from Design has wholly lost its cogency. No claim is made that it has been logically confuted, but there is a disposition to take for granted the conclusion that it has suffered resolution in that potent solvent of theological formulae, modern thought. As fairies are banished from the world of realities because they have ceased to appear, and miracles are no longer credible because they do not happen; so the ancient proofs of design have vanished, not because the facts of adaptation in Nature have changed, but because, studied in the light of the new knowledge, they accommodate themselves to an alternative interpretation. Such is the attitude that has found a ready tolerance, and it can scarcely be said to have done justice to the many able attempts of Christian thinkers to restate the design argument in modern terms. Happily, the quality of contemporary thought is not wholly negative; it has synthetic as well as analytic power, and if its forces have shaken old fabrics, they have also attempted new constructions. Nor have these ventures been wholly unsuccessful in relation to the argument in question—which, for a discredited theory, seems to possess

remarkable vitality. Many citations from the pages of gifted men who are not professional theologians might be given to illustrate this statement. Thus Sir Oliver Lodge says—

The essence of mind is design and purpose. There are some who deny that there is any design or purpose in the universe at all : but how can that be maintained when humanity itself possesses these attributes ? Is it not more reasonable to say that just as we are conscious of the power of guidance in ourselves, so guidance and intelligent control may be an element running through the universe and may be incorporated even in material things.¹

Again—

The universe, as we perceive it, does not set to work after our conscious manner and put things together to a design—no; but that is no adequate reason for denying an aim, a super-consciousness, and an ultimate goal.²

Another distinguished champion of the position is the veteran scientist, Alfred Russel Wallace, in his recent book *The World of Life*. Of this work he says—

It concerns itself with the great question of Purpose. Is there guidance and control, or is everything the result of chance ? . . . My contribution is made as a man of science, as a naturalist, as a man who studies his surroundings to see where he is. And the conclusion I reach in my book is this : That everywhere, not here and there, but everywhere, and in the very smallest operations of nature to which human observation has penetrated, there is Purpose, and a continual Guidance and Control.³

The kind of design for which Wallace finds such abundant evidence may not be precisely the sort expounded by Paley; but it is, as one reviewer of the book truly says, 'sufficiently like it to warrant all the inferences drawn from it by the theologian. It is Paley's design pushed back to the ultimate analysis of matter and life, or brought abreast of recent researches and knowledge.' On the whole it would seem safe to repeat to-day the judgement passed upon the argument by Illingworth in his Bampton Lecture of 1894 :

¹ *Life and Matter*, p. 118.

² *Hibbert Journal*, Jan. 1912.

³ Harold Begbie's interview in *Daily Chronicle*.

“E pur se muove.” It still retains a weight and impressiveness which show that there is more in it than logical analysis can either detect or refute.’

It is the work of the constructive thinker to define the limits within which the new knowledge modifies the old teleology; and, then, if it can be shown that modern criticism has not touched the essence of the argument, to utilize all available new material for the refashioning of its form. Along these lines much useful and suggestive work has been done.

The Paleyan method, which started with highly developed organisms and insisted upon the necessity, in each particular case, of an intelligent designing mind for the contriving and determining of their forms, was beset with one very obvious peril. The force of the argument was cumulative; its weight depended upon the number of particular instances of design that could be adduced. It was almost inevitable that, now and again, some secondary, or even some wholly imaginary adaptation of an organism would be advanced to the dignity of a final purpose by some incautious expositor. And one such discredited case of adaptation would create a prejudice against the whole argument, for, while the idea of design might survive, the method of the apologists who elaborated it in the interests of theology would fall under suspicion. That there were many such incautious exponents of design in Nature may be illustrated by the remark of Hegel, quoted by the biographer of Dr. James Martineau from Schurman’s *Belief in God*, that, ‘though wine be useful to man, neither religion nor science is profited by supposing the cork-tree to exist for the sake of the corks which are cut from its bark to serve as stoppers for wine bottles.’ Modern Temperance reformers, armed with the science of their cause, might see in the assumption which underlies this quotation a folly as great as that at which the philosopher pokes his fun. To them the conclusion that God created the grape in order that man might drink its *fermented* juice

is the *reductio ad absurdum* of the argument from design. But even the man who agrees with Prof. Wallace that wine and beer are, 'when used in moderation, among the choicest gifts of Nature,'¹ would pause at the cork theory. To the modern spirit, with its leaven of reverent agnosticism and its feeling that though there be a plan in the universe it is a plan impossible to formulate, all presumptuous pressing of the argument in detail is peculiarly repugnant.

Among the movements of thought which have tended to weaken the force of this polemic the scientific movement must be counted first. By many, indeed, the doctrine of Natural Selection is thought to negate the whole idea of design. 'See,' cries the materialist, as he traces the action of this principle—which, he reminds us, obtains throughout the organic world—'what you attribute to purposeful design is really due to accidental variation; there is appearance of design certainly, and you may be excused for being deceived by the deceptive semblance, but it is appearance without the reality.' So we have, as the final word of the materialistic school on this problem of teleology, such confident assertions as that of Ernest Haeckel—

The development of the universe is a monistic mechanical process in which we discover no aim or purpose whatever; what we call design in the organic world is a special result of biological agencies; neither in the evolution of the heavenly bodies, nor in that of the crust of the earth, do we find any trace of controlling purpose—all is the result of Chance.

It has been shown by many who have countered this scientific attack—or rather, let us say, this unscientific misuse of an accepted scientific generalization—that there is here a dangerous kind of shuffling with the word Chance. Here the logician has a field, and will contribute much to the final result. In this controversy we need to bear in mind Bishop Butler's caution against the philosophical misuse of a popular word. There are some laws, he reminds us,

¹ *The World of Life*, p. 327.

which are 'so wholly unknown to us that we call the events which come to pass by them accidental; though all reasonable men know certainly that there cannot in reality be any such thing as chance, and conclude that the things which have this appearance are the result of general laws, and may be reduced into them.'¹

But there are some particular answers to this objection which perhaps shed more light upon the form which the new teleology is likely to take: First, it may be said that, even though natural selection could be admitted to be the *sole* cause of organic development, the varieties of organism with which that principle deals would still require explanation. 'The variations of to-day have issued by necessity from those of yesterday, and those of yesterday again from others, thus carrying us back to the original variability of matter. The present condition of the world is therefore a necessary consequence of that variability; and if the present state of the world is full of adaptations that suggest design, the primitive variability from which those adaptations have ensued must suggest it in no less degree.'² Such is Illingworth's reply to the materialist, and, as an answer to those who recognize in the development of the universe merely a mechanical process, it is both valid and sufficient. It does not, however, lead us any nearer to that teleological idea towards which modern Christian thought is tending. Purpose, stamped upon *primaeval* matter and evolved through the action of fixed cosmic laws, would still be purpose; but the universe so evolved would be absolutely determined by a Power and Wisdom external to itself, and the evolutionary process would be purely mechanical. There would be no room for freedom and the play of life.

A better reply to the materialist, because one that leads us a little nearer to the true conception of Purpose, is to remind him that *life* also is a cause of organization. This

¹ *Analogy*, Part II, ch. iv.

² Illingworth: *Personality*, p. 96.

is now admitted, and it follows that if organization suggests design it suggests also that the life principle is purposeful. And it is along these lines that the controversy between evolution and teleology has been most fruitful. It has forced us to think inwards as well as backwards. The doctrine of natural selection has not invalidated the argument from final causes, but it has unquestionably modified its form. As one writer has put it—

Paley's idea of contrivance is only applicable if we suppose a highly developed organism to be dropped suddenly into foreign surroundings. But the relation of an organism to its environment is not of this external nature, and the adaptation of the one to the other must be regarded as the result of a long process of interaction in the past history of the species. In thus substituting the operation of general laws for Paley's continual invocation of a supernatural cause, evolution passes no judgement on the question of the ultimate dependence of those laws upon intelligence; but it evidently alters profoundly our general conception of the relation of that intelligence to the world.

It does indeed! Any teleology which can satisfy the modern mind must be what Sir Oliver Lodge calls 'immanent teleology.' The questions to be answered, therefore, are: (1) Does the evidence warrant us in concluding that the immanent spirit of the universe is controlled by reason? and (2) Supposing that proved, can we infer anything as to the nature of the Supernatural? is an immanent purpose compatible with an infinite and eternal Purpose for all created things?

Before passing, however, to a consideration of the evidence for, and the difficulties involved in an 'immanent teleology,' it may be noted that another and very different influence, that, viz., of poetry, has been at work co-operating with science in destroying that external and mechanical view of Nature which gave to the old design argument its characteristic form. That argument treated many things in Nature as though they had no meaning apart from the purpose they were designed to serve in the general scheme; they were only means to ends. For us, however, in so far

as we have assimilated the teaching of the Wordsworthian school, nothing in Nature is mere mechanism or simple art. Nature is alive—

An active principle subsists
 In all things, in all natures, in the stars
 Of azure heaven, the unenduring clouds,
 In flower and tree, in every pebbly stone
 That paves the brooks; the stationary rocks,
 The moving waters and the invisible air.

And all life has its own meaning. This view cannot be better expressed than in a recent article in this REVIEW.¹

Now, to one who has been deeply influenced by this interpretation of Nature, the argument that trees were created in order that man might have timber to build houses, is crude and unconvincing. He recognizes the adaptation of the tree to human needs, and even follows Wallace in his contention that certain qualities of wood—hardness and durability, e. g.—which are so exactly suited to the needs of civilized man that it is almost doubtful if he could have reached civilization without them, ‘seem unessential to trees themselves as vegetable growths.’ But he feels the necessity of fitting these facts into a larger scheme of Providence in which the tree shall be treated with greater reverence. For the teleologist, as well as for the rustic maiden of the poet’s thought, there is a meaning in the caution—

Move along these shades
 In gentleness of heart; with gentle hand
 Touch—for there is a spirit in the woods.

It cannot be admitted, however, that this view of Nature weakens the *idea* of design. Indeed it strengthens that idea, for, as Illingworth says: ‘A system whose every phase and part, while existing for its own sake, exists also for the sake of the whole, is, if possible, more suggestive of rational design than even a machine would be.’²

¹ E. J. Brailsford: *L. Q. R.*, Jan. 1912, p. 16.

² *Personality*, p. 98.

We now turn to the question : ' What has Nature to say as to an immanent purpose ? Coming to her, as we do, with certain experiences and expectations in relation to the operations of mind, it is not too much to say that Nature irresistibly suggests conscious purpose as a quality of, or at least as in effective control of the forces which constitute her reality and govern her development. For what do we find when we scrutinize the inward operations of Nature, assisted by all the resources of modern physical and biological science ? Take, e. g., the mystery of growth. Huxley's suggestion of the invisible artist in the egg at once occurs to the mind. But a still more impressive illustration is worked out, with great skill, in Wallace's fourteenth chapter of *The World of Life*, on ' the marvel and mystery of feathers.' After reminding us that the whole organization of the bird is built up from the same protoplasmic material, and that the wing, considered in the light of its evolutionary history, as well as in that of its obvious purpose as an instrument for flight, seems to be ' of all the mere mechanical organs of any living thing that which most clearly implies the working out of a preconceived design,' he asks—

What then is the selective or directing power which extracts from the blood at every point where required the exact constituents to form here bone-cells, there muscle-cells, there again feather-cells, each of which possesses such totally different properties ? And when these cells, or rather, perhaps, the complex molecules of which each kind of cell is formed, are separated at its special point, what is the constructive power which welds them together, as it were, in one place into solid bone, in another into contractile muscle, in another into the extremely light, strong, elastic material of the feather—the most unique and marvellous product of life ? Yet again, what is the nature of the power which determines that every separate feather shall always ' grow ' into its exact shape ? Again, what directive agency determines the distribution of the colouring matter (also conveyed by the blood), so that each feather shall take its exact share in the production of the whole pattern and colouring of the bird, which is immensely varied, yet always symmetrical as a whole, and has always a purpose, either of concealment or recognition or sexual attraction in its proper time and place ?

Surely the conclusion suggested in this remarkably

vivid passage is irresistible. To explain all these wonders as the result of the properties of protoplasm or the innate forces of the cell is only evading the problem. We must infer power in the only form really known to us, i. e. as the expression of will, power directed by thought. Thus we have an argument from design enriched rather than impoverished. The old argument said, when it discovered an adaptation of means to ends, 'a designer has been at work upon this.' The new argument says: 'A designer is here, within the organism, constantly at work, utilizing a prepared material indeed, but manipulating it with the freedom of a mysterious knowledge, producing varying results by subtle combinations of the same elements, bringing into play, controlling and guiding the physical, chemical and vital forces of Nature with such delicate and unfailing precision and towards such obvious ends that the impression of conscious mind and definite purpose is inevitably conveyed to the spectator.'

At this point the question may be raised: How far are we justified in bringing to the interpretation of Nature the *a priori* expectations furnished by our own conscious life? And here the familiar reasoning of that distinguished advocate of design, Dr. James Martineau, seems unanswerable—

Man is equally your point of departure whether you discern in the cosmos an intellectual, a physiological, or a mechanical system: and the only question is whether you construe it by his highest characteristics, or by the middle attributes which he shares with other organisms; or by the lowest that are absent from no physical things.¹

The force of the teleological argument will depend upon the extent to which we allow our minds to be swayed by the prejudice against anthropomorphic analogies. The works of Nature, of themselves, do not prove mind. They suggest it to us because of what we already know of the workings of human intelligence. But, if the marks of

¹ *Study of Religion*, Vol. I, p. 316.

purpose ' are apparent in the structure of a cottage, are they absent from the hut of the beaver and the nest of the wasp ? Does the granary of the farmer provide for the future any better than the storehouse of the squirrel ? Is there more skill in a pair of spectacles than in a pair of eyes ?—in a guitar than in the vocal chords of a Malibran or a Santley ?—in the hunter's snare than in the spider's web ?—in the lover's serenade than in the nightingale's song ?—in the oars of a boat than in the fin of a fish ? ' ¹ The answer is obvious and irrefragable, given the initial conception on which the argument rests. The human adaptations described are works of reason, examples of foresight and intention. What are the parallels in external nature ? They, too, must be construed, if at all, in the terms of Mind. And here perhaps we may urge that Science at least can have no reason to quarrel with the method. This point has been put very forcefully by Dr. James Orr in an address intended to justify to the modern mind the Christian conception of God as a personal intelligence—

The postulate on which the whole of our modern science rests is just this postulate of the rationality of the universe. If I interpret it aright, the whole meaning of science is that the universe is construable to intelligence. It admits, that is to say, of being rendered into terms of thought, and that a thought kindred with its own, else we could never penetrate its secret. A man of science stands before his facts and says : Tell me, I pray thee, thy name ; and he expects to understand the answer. There is in rational speech the power to give back an answer to him. It is a system of law, of order, of rational connexion which he finds around him—as we say a *cosmos*. But to say this is, to a man who understands his own language, simply to say that thought has been at the making of it ; but for thought it would not and could not have been there. And whatever philosophers may pretend to the contrary, the mind of man will never be persuaded that the reason which produced this wondrous frame of things can be, or is, a reason unconscious of itself, or of its own operations and ends, in what it does.²

The question remains : What use can theology make of this immanent teleology ? Can Christian philosophy find

¹ *Study of Religion*, Vol. I, p. 247.

² *Questions of Faith*, p. 12.

a place for it in the Theistic argument or utilize it for the strengthening of our faith in a rational and purposive First Cause? Is the 'immanent Reason' Divine Immanence? May the *cosmic* purpose be identified with the purpose of the Infinite and Eternal God?

The difficulty of finding room for the conception of a Designer within the doctrine of the Divine Immanence has been stated with much impressiveness by Dr. John Caird.¹ His argument, however, is directed wholly against the Deistic conception of God as an *outside* creator or designer, and, while he rejects the word 'Designer,' he leaves us with a God who is 'an immanent spiritual presence, the inner life and thought of the world.' This is enough for the man who values ideas rather than words, but it does not decide the crucial question: Is 'the inner life and thought of the world' God?

Prof. Wallace, in the book to which such repeated reference has been made, settles the problem after a fashion of his own. He says: 'To claim the Infinite and Eternal Being as the one and only direct agent in every detail of the universe seems absurd.' He suggests that we find in the universe and in the Life World, not so much Mind as minds, — 'infinite grades of power, infinite grades of knowledge and wisdom, infinite grades of influence of higher beings upon lower.' This seems also to be the position of Sir Oliver Lodge who closes his article on 'Balfour and Bergson,' in the *Hibbert Journal* for January, with these words: 'I am impressed with two things—first, with the reality and activity of powerful but not almighty helpers, to whom we owe guidance and management and reasonable control; and next, with the fearful majesty of still higher aspects of the universe, infinitely beyond our utmost possibility of thought.' It would be a little off the track of our inquiry to discuss this Gnostic interpretation of the suggestions of design in Nature, but it seems pertinent to remark that we might, even along

¹ *Fundamental Ideas of Christianity*, Vol. I, p. 119.

these lines, ascend to the conception of a First Cause who is at least an intelligent Being. This Wallace does, for his subordinate creators, hierarchies of spirits, angels, demi-gods and the rest are assumed to be under the control of a co-ordinating power and wisdom whose purpose they fulfil and who is Himself the Infinite and Eternal God. Yet how far off is such a God—'infinitely beyond our utmost possibility of thought'—still, to our universe, external and absentee. It cannot, one must think, be beyond the power of Christian philosophy to show that such an interpretation of the facts presents greater difficulties for thought than the doctrine of the divine immanence—that doctrine which, implied in the message of Wordsworth, and now reinforced by the marvellous revelations of Science, by the influence of Eastern philosophy and also by a refinement of the religious consciousness, has attained the importance of a formulated and dominating idea in Christian theology.

Leaving aside these speculations, however, there are two difficulties in conceiving the divine immanence and interpreting it teleologically which press upon the modern mind. The first relates to our idea of God, and has been well expressed by the head master of Repton, the Rev. W. Temple, in his suggestive little book on *The Nature of Personality*. Speaking of the relation of the Father and the Spirit in the Trinity he says—

A problem arises with regard to Knowledge and the Progress of the World. . . . Now either the whole history of the universe was contained in its earliest moment (to use a loose expression) or not; to say that it was is to adopt pure Determinism. . . . But to admit variety of form—as when vegetable life arose, and when animals first set themselves in motion, and men began to live as civilized societies, and so on—introduces a great problem as to the nature of the Omniscient Spirit from whom all this proceeds. And I think we must say that, just as the artist finds his own meaning in the successful struggle to express it, so, from one point of view, God realizes His own intention in the process of effecting it.¹

This leaves us with an immanent God who, as immanent,

¹ *The Nature of Personality*, p. 106.

lacks the attribute of Omniscience; but need we fear that necessity of thought if our doctrine of immanence lies in our theology like an island in the larger sea of the divine transcendence? Is not the difficulty that insuperable one of which no philosophy can ever relieve us—the difficulty of presenting adequately to our finite intelligence the mode of the divine existence? We have for thought an immanent reason and a transcendent reason—both divine. That both are aspects of a higher unity we cannot doubt, though the mystery of their essential and eternal oneness eludes our grasp. For the explanation of the mystery we must be content to wait. Meanwhile, is it a greater mystery than the Incarnation or than the unity of the Persons in the Trinity? Is it, to come directly to our question, a mystery that should be allowed to interrupt that process of thought which bids us recognize in Nature, not merely the marks of intelligence, but an immanent divine reason, the cosmic manifestation of a Wisdom that is supreme and eternal?

The second difficulty to which allusion was made above is really another aspect of the same perplexity. It relates to the cosmic process and involves the question of its freedom. The modern conception of spontaneous, creative evolution is inconsistent, so it is urged, not only with mechanism but also with teleology of any kind; for, if the world simply realizes a prearranged plan, it is tied down, determined absolutely from the very first. 'Teleology,' M. Bergson is quoted as saying, 'is only inverted mechanism, substituting the *pull* of the future for the *push* of the past.' It may surely be answered, however, that this objection is valid only against a teleology which may fairly be so characterized, one, i. e., which means an end imposed upon the world from *without*. But in the teleology for which modern Christian thought contends, the end is not so imposed; the whole drift of that thought is towards the conception of *immanent* purpose. Does immanent—that is, self-imposed—purpose in the sphere of human conduct rob man of freedom,

spontaneity, creative energy? Does it prevent him from changing, revising, enlarging his ideals? Does it make impossible initiative, variety, new departures? Surely not! Then why should an immanent cosmic purpose, a purpose imposed from within, be described as inverted mechanism? Why should such a teleology be destructive of the idea of cosmic freedom? This answer is elaborated with much skill and force in a note on the discussion in the *Hibbert Journal* to which reference has already been made. It is not possible, of course, to bring together, in any single clear conception, the freedom of the immanent spirit, and the absoluteness of that transcendent Being whose purpose all created things fulfil. But it is at least a problem which has its dimly suggested analogue in that freedom within self-imposed necessity which is an experience of our finite personality.

The New Teleology is not yet completely fashioned, but it may be confidently affirmed that the essentials of the old argument from design have not been destroyed. There is good hope that those who value the idea and those who dread its influence may draw nearer together when they understand each other better. Sir Oliver Lodge thinks that M. Bergson may yet assent to the kind of Teleology for which Mr. Balfour pleads. Meantime Christian thought owes much to the workers who, along varied but converging lines of research and of reasoning, are accumulating the material for an Argument from Design which shall be to the faith of the present age what the Paleyan apologetic was to that of a former generation.

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