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ORDINARY MEETING.*

THE PRESIDENT (SIR GEORGE G. STOKES, BART., V.P.R.S.),
IN THE CHAIR.

The Minutes of the last Meeting were read and confirmed, and the following Elections were announced :—

MEMBER :—The Hon. Martin Brimmer, United States.

ASSOCIATES :—Rev. S. Hungerford, New South Wales ; Rev. H. M. Ladd, D.D., United States ; C. B. Phipson, Esq., J.P., Ireland ; Rev. C. H. H. Wright, D.D., Liverpool.

The following Paper was then read by the Author :—

*THE PHILOSOPHICAL BASIS OF THE ARGUMENT
FROM DESIGN.* By the REV. J. H. BERNARD, D.D.,
Archbishop King's Lecturer in Divinity in the University
of Dublin.

NO one who studies with any diligence the history of the Theistic controversy, since the last century, can fail to be struck with the marked change of tone that has come over the literature on the side of the defenders of religion, as well as on the side of its opponents. The flippancy of Tom Paine and writers of his class has been replaced by a sad and sober criticism ; while on the other hand the confident and dogmatic statements of Paley are exchanged for a cautious and apologetic presentation of the philosophical basis of religion, which shrinks from no charge with such dread as the charge of special pleading. And there is no question but that this change is, on the whole, for the better. No one can doubt that the object of the philosophical writers of our own time who deal with religion is rather to find out the truth than to score a point in controversy with an opponent ; and I am not sure that that could always have been said of religious literature in England.

But laudable as are the motives which keep one from overstating one's case, or from misrepresenting one's opponents,

* April 4, 1892.

it is plain that truth is not best served by timidity or by an understatement of what we think the facts before us imply, in order that we may be reckoned generous and large-minded controversialists. I make no apology, therefore, for bringing before the members of the *Victoria Institute* one of those lines of reasoning which have been commonly held by apologists, until quite recently, to attain to all the rigorousness of strict proof. The word "proof" in this connection has, I know, gone out of fashion; but yet we may use it provisionally. Among the various proofs which natural religion has offered for the existence of a supreme and intelligent Governor of the Universe, the argument from design has always been prominent and popular. Alike by Theists and Atheists, by sceptics and believers, it has been regarded from the time of Aristotle as one of the strongest bulwarks of the fortress of religion. It gives at once the most complete, and the most generally intelligible, justification to reason of faith in God; and so deserves the best attention of all seriously-minded persons. I desire to consider as simply as possible in this paper, the basis of the argument, and to discuss briefly one or two objections to it which seem to be of importance at the present time; and if I ask you to accompany me for a brief half-hour into the desert of metaphysics, which many persons regard as a trackless and barren wilderness, rather than invite you to journey along the straight road of so-called common sense, it is because I am convinced that in this journey, as in so many others, the longest way round is really the shortest way home.

Most of us are accustomed to speak as if we regarded the popular distinction between mind, the thing which knows, and matter, the thing which is known, as scientifically accurate, and as a complete statement of the case; and the argument from design then comes to this. We see in the laws and phenomena of the universe traces of order and arrangement beyond what we can ascribe to chance; we see that the world is *κόσμος* not chaos, and hence we conclude that there must be an intelligence behind, which is guiding and controlling the forces of nature in their energies. To this train of reasoning two distinct classes of objections have been made, which we shall consider in order—

1. The materialist first puts in his counter-plea; and though his pleadings may be differently drafted, yet the fundamental principle upon which he relies has been the

same ever since the days of Democritus. Everything that exists, he says, results from a fortuitous concourse of the atoms which are the ultimate constituents of things. What you call mind is but a function of your bodily organism. Thought is merely the result of movement in the grey matter of the brain; it is, in fact, viewed on the subjective side, a secretion of the brain, just as bile is a secretion of the liver. As it was cynically said by a German physiologist, "Was man *isst*, das *ist* er"; man is what he eats, no more. There is no need to assume any entity—to use a barbarous, but convenient term—any entity, distinct from matter to account for the phenomena of personal consciousness, and so *a fortiori* there is no need to assume—nay, by the philosophical Law of Parsimony we are absolutely forbidden to assume—any such mysterious power as the basis of nature. The principles of natural selection and of the survival of the fittest furnish us with a sufficient illustration of the order that we fully admit is traceable in the universe; and that for the simple reason that nothing that is not orderly can continue to exist. Now however sceptical we may be as to the principles of natural and sexual selection being the last word that science has for us on the subject of the order of the universe, yet the general objection here implied would, I believe, be unanswerable if the philosophical creed from which it starts, the creed of materialism, were true. The conclusion seems to follow rigidly from the premises. "Nullus in microcosmo spiritus, nullus in macrocosmo Deus," is a more reliable maxim than most of the aphorisms of scholastic philosophy. And so we cannot dispense ourselves from considering the value of materialism as a system of things. We can never persuade a materialist that the design argument is of any value at all. I shall try to put the accustomed answer of idealists, from Plato down to Green—an answer which seems to me entirely convincing—in two forms.

(a) We assert boldly that the materialist is guilty all through of one of the commonest of logical fallacies—the fallacy of circular reasoning—and that in the following way. He professes to explain away the necessity for *spirit*, *soul*, *mind*, by asserting that what we call mind is only a function of the bodily organism.

But let us ask him, what does he mean by the organism, how does he propose to define those atoms whose co-operation he so often invokes? Now mark his reply, his definition

must be *made in language which is only intelligible for a mind*. His attempt to explain the intelligence as a function of matter ends in nothing, for his account of matter in the ultimate resort will be made by describing it as possessing attributes which have no meaning *except for an intelligence*. And if there be not an intelligence somewhere in the first instance, no satisfactory account is given of matter or, consequently, of the genesis of mind. This answer, be it observed, has nothing whatever to do with theories of Biogenesis or Abiogenesis; the physical possibilities of matter in which eminent scientific men have found "the promise and the potency" of life are not in question. The problem is entirely a metaphysical one and not to be solved in the chemical laboratory.

No matter how far material processes may be investigated, materialism cannot give any rationally complete account of *mind*; for in attempting to explain the genesis of any given individual intelligence, it at least assumes another intelligence behind to watch the process.

But this is not all. Many materialists urge, and they can appeal to well-known scientific facts in support of their assertion, that different forms of mental activity can be localised in different parts of the brain. It can be shown without much difficulty that brain processes always precede mental processes; now, it has been asked, what more is needed to prove that mind is a function of body? The answer to such a question when put in the crude form in which I have stated it, is not far to seek. Suppose it admitted that a certain bodily motion is always the antecedent, a certain mental state the consequent. It does not in the least follow that the bodily antecedent is sufficient *by itself* to account for the mental state which is spoken of as a "consequent." To make such an inference would be to fall into the old logical fallacy, *post hoc, ergo propter hoc*, the blunder of mistaking consecution in time for causation. It may be said that, as a matter of fact, few materialists would urge that the motion of the grey matter of the brain afforded a good and scientifically complete account of thought. They would probably say, as some of them have said, that any mental state may be regarded from two aspects, the objective and the subjective; and that while science gives a sufficient account of the former, the latter aspect is outside its proper region. But it must be remembered that this distinction between the subjective and objective, though valid for an idealist, has no proper meaning and cannot be appealed to by a thorough going materialist, and

to admit such a distinction in the nature of things is to admit all that the most ardent idealist would ask for. The truth is that no matter how accurately the physical antecedents of thought may be determined, this fact must always remain; there is a great gulf fixed between *thought* and *motion*, over which we shall never be able to throw a bridge. The word motion, as I have indicated already, has no meaning except for a mind: and so to explain thought as a mere process of movement is to be guilty of a *circulus in probando*.

(b.) Let us examine this last position from another point of view, that we may see not only the logical inadequacy but the logical impossibility of materialism as a philosophical creed. Plato makes the assertion, and it has never been refuted, that *motion* is only appreciable through *rest*. Now if this be true, it is plain that any theory which would reduce everything in the universe to a modification of motion, must be untrue. If motion cannot be appreciated except by something not itself subject to the laws of motion, it does not give us a complete solution of the problems of nature. Take a fanciful illustration—a borrowed one—but which was originally used (by Prof. W. K. Clifford) to illustrate something quite different. Suppose the case of a worm living inside a perfectly smooth circular tube so uniformly constructed that at no point could there be any sensible difference of bending from any other point, a tube inside which there were no landmarks, so to speak. Is it not plain that the worm—no matter how philosophical a worm he might be—would never know that the tube in which he lived was circular? Suppose him constantly to move round and round, he would never know that he had returned to the same point, and he would not regard the bending of his body as due to anything else than the configuration of the space in which he lived? *He would not know that he lived in a circular space*. How do we know it? Simply because we are not confined within the tube ourselves; we see the worm's limits, and so are beyond, and independent of them.

Mutato nomine, de te fabula narratur. If we reflect upon our own mental experience, we shall at once perceive that we regard everything that happens to us, every action in which we are concerned either directly or indirectly, as occurring *in space* and *in time*. We are not like the worm of our fable, for we are conscious of the limits within which our activity is exercised; and we have seen that such consciousness of limitation implies that the limits are viewed

from a higher stand-point. Now what does this involve? Just this: that the I, the Ego, *das Ich*, who or which experiences everything as in space or in time must itself be timeless and spaceless. The consequence is inevitable. If we are conscious of succession we ourselves do not change, we are permanent. That which is conscious of any series of events cannot itself be part of the series; that which clamps the series, so to speak, is not one of its links. And thus the simplest act of experience is sufficient to lead us to the recognition of that inexplicable mystery which we always come to in our endeavours to explain anything completely. First principles, from their very nature, are not susceptible of proof; otherwise they would not be *first* principles. And so it is impossible, if you will, to demonstrate the presence of the Ego as a distinct factor in any act of consciousness simply because that very demonstration would itself imply the Ego. In the forcible language of the late Mr. Green: "The crowning absurdity of speculation is the endeavour to explain the genesis of thought. . . . To attempt to explain the intelligence by the intelligence is to cut the ground from under your own feet."

The conclusion, then, to which we are impelled by an inexorable logic is that in order to give any intelligible account not merely of the more complicated workings of nature, but of the simplest act of consciousness, we must assume the intelligence, mind, thought,—call it what we will—as an ultimate mystery which baffles explanation and which lies at its root. And therefore it is that materialism is not a satisfactory solution of the problem before us, because it is in truth a huge *petitio principii*, a begging of the question.

Having thus recognised the necessity of assuming what we call *mind* as the basis of our own individual conscious life, it is not hard to see why we attribute minds of like nature to other men. We see that other men act as we do, and that the most reasonable way of accounting for their actions is by supposing that they have minds like ourselves, that they are possessed of an active and spontaneously energising faculty, which is the seat of their personality. But it is instructive to remark that we cannot *demonstrate* this; to cross the chasm which separates my personality from your personality requires a venture of faith, just as emphatically as any theological formula. I can by no means *prove* that that complex of sensations which I constantly experience and which I call the Prime Minister is anything

more than a well-ordered machine. It is improbable that this is the case—highly improbable; but the falsity of such an hypothesis cannot be proved as you would prove the falsity of the assertion that two and two make five. But then though the hypothesis cannot be thus ruled out of court by demonstration of its absurdity, it is not the simplest hypothesis nor is it that one which best accounts for the facts. The assumption, on the other hand, that the men whom I meet every day have minds like my own, perfectly accounts for all the facts, and is a very simple assumption. It merely extends by induction the sphere of a force which I already-know to exist. Or in other words, materialism not giving me an intelligible account of my own individual consciousness I recognise mind, *voûs*, as a *vera causa*, as something which really does produce effects in the field of experience and which therefore I may legitimately put forward as the cause of those actions of other men which externally so much resemble my own. But again, I repeat, this argument, though entirely convincing to any sane person, is not demonstrative; it is open to the more serious of the objections urged by Kant against the design argument for the existence of a Deity. In his technical language, the reasoning here used would seem to be valid only for the reflective and not for the determinant judgment; for the principle of design, as he is never tired of telling us, or conscious adaptation of means to ends, is not a constitutive principle of experience; it is only a regulative principle introduced to account for the facts.

Leaving this aside for a moment, however, what I am endeavouring to show is that the steps by which I manifestly arrive at my knowledge of the existence of other finite minds are exactly similar to those by which the upholder of the design argument claims to arrive at the existence of an Infinite Mind as the basis of nature. For what is that argument? It is this. I observe certain phenomena occurring with order and regularity; I further observe that all so-called natural processes tend towards an end, that nature is full of purpose, that her working seems to be teleological, not merely mechanical; and I assert that the simplest—nay for me the only intelligible—way of accounting for this wonderful order and purpose is to assume a Mind as the Author of it all. And in making such an assumption (and this is the point I wish to emphasise) I am introducing no new and unknown cause; I appeal to no

Deus ex machina. I merely say that a force similar to that which I am compelled to regard as the basis of my own personality, similar also to that which I believe to be the spring of action of other human beings, regulates, controls, and orders the energies of Nature. That is the design argument in its simplest form; and so viewed, it is not open to the charge of invoking the aid of a new and unknown force merely to account for the phenomena; but it asserts the operation in nature of a force like to that which we *know* to exist in ourselves.

2. To this analogical way of stating the argument from design, a formidable objection has been lodged by Kant, which has been held to be unanswerable by many of his followers. In Kant's last great work, the *Kritik of the Faculty of Judgment*, the latter part of which is altogether concerned with the problems of teleology, he maintains that although it is perfectly legitimate to conclude from the actions of the lower animals which seem to involve plan, that they are not, as Descartes alleged, mere machines; yet it is not legitimate to conclude from the apparent presence of design in the operations of nature that a conscious mind directs these operations. For Kant argues that in comparing the actions of men and the lower animals, or in comparing the actions of one man with those of another, we are not pressing our analogy beyond the limits of experience. Men and beasts alike are finite living beings, subject to the limitations of finite existence; and hence the law which governs the one series of operations may be regarded by analogy as sufficiently explaining the other series. But the power at the basis of nature is utterly beyond definition or comprehension; and thus we are going beyond our legitimate province if we venture to ascribe to it a mode of operation with which we are only conversant in the case of beings subject to the conditions of space and time. To quote his own words (§ 90 *loc. cit.*): "We can in no way conclude according to analogy, because in the case of finite beings intelligence must be ascribed to the cause of an effect which is judged artificial, that in respect of nature the same law of action which we perceive in men belongs also to a Being quite distinct from, and transcending nature." The same view is thus presented by Hume with his accustomed clearness and force, "In human nature there is a certain experienced coherence of designs and inclinations; so that when from any fact we have discovered one intention of any man, it may often be

reasonable from experience to infer another, and draw a long chain of conclusions concerning his past or future conduct. But this method of reasoning can never have place with regard to a being so remote and incomprehensible, who bears much less analogy to any other being in the universe than the sun to a waxen taper, and who discovers himself only by some faint traces or outlines, beyond which we have no authority to ascribe to him any attribute or perfection.* Now this position is the root of what is called Agnosticism; and it is a position adopted by many persons who, in other matters, do not call Kant master. It is urged that the whole line of reasoning here adopted proves only what every scientific man—be he a Theist or not—would admit; it only proves that the principle of purpose must be brought in to give any satisfactory explanation of nature; it does *not* prove that nature is really full of purpose, but only that it seems so to a discursive intelligence like ours; and more particularly it fails to prove that that apparent purpose points to a conscious mind.

i. In the first place it is worth while to pause for a moment to note the great concessions which Kant makes to the Theist. He admits fully—nay he insists with emphasis—that the principles of mechanism are quite inadequate to account for the phenomena of nature, *e.g.*, for the phenomena of organic life. We cannot explain organised life in any way without bringing in the idea of purpose; the language of Biologists eloquently shows the impossibility of eliminating at least the idea of design from our investigation of nature, and he adds that we cannot comprehend in any way the apparent adaptation of means to ends in nature unless we bring in the idea of a Supreme Mind (§ 75). For the theoretical needs of biological science, as well as for the practical needs of morals, the idea of God is indispensable; although it is, too, an essential point in the Philosophy of Kant that God's existence cannot be proved to demonstration from the evidence afforded by external nature. It is significant to observe, I think, that this was an essential part of the philosophy of the founder of modern criticism.

ii. But then we go on to inquire: why precisely is our analogical reasoning illegitimate in a theoretical point of view? It is conceded on all hands that it does not amount to demonstration. No analogy does. It is urged that it is

* *Essay On a Providence and a Future State.*

because when speaking about man and his mind we thoroughly understand what we are talking about; but in speaking of the Mind of Deity we are dealing with something of which we have no experience, and of which therefore we have no right to predicate anything. The difficulty is real and serious; but let it be observed that even when we infer the existence of another finite mind from certain observed operations, we are making an inference about something which is as mysterious an *x* as anything can be. Mind is not a thing, as we have seen, that is subject to the laws and conditions of the world of sense; it is "*in* the world, but not *of* the world." And so to infer the existence of the mind of any individual except myself is a quite different kind of inference from that by which, *e.g.*, we infer the presence of an electro-magnet in a given field. The action of the latter we understand to a large extent; but we do not understand the action of mind, which yet we know from daily experience of ourselves does produce effects in the outer world, often permanent and important effects. Briefly, the action of mind on matter (to use the ordinary phraseology, for the sake of clearness) is—we may assume for our present purpose—an established fact. Hence the causality of mind is a *vera causa*; we bring it in to account for the actions of other human beings, and by precisely the same process of reasoning we invoke it to explain the operations of nature. It is quite beside the point to urge that in the latter case the intelligence inferred is *infinite*; in the former, only *finite*. All the design argument undertakes to show is that mind—whether finite or infinite it is beyond its province to say—lies at the basis of nature. There is always a difficulty in any argument which tries to establish the operation of mind anywhere, for mind cannot be seen, or touched, or felt; but the difficulty is not peculiar to that particular form of argument with which theological interests are involved.

The real plausibility of this objection arises from a vague idea, often present to us when we speak of *infinite* wisdom or *infinite* intelligence, namely, that the epithet *infinite* in some way alters the meaning of the attributes to which it is applied. But the truth is that the word *infinite*, when applied to wisdom or knowledge or any other intellectual or moral quality, can only have reference to the number of acts of wisdom or knowledge that we suppose to have been performed. The only sense in which we have any right to speak of *infinite* wisdom is that it is that which performs an

infinite number of wise acts. And so when we speak of infinite *intelligence*, we have not the slightest warrant, either in logic or in common sense, for supposing that such intelligence is not similar in kind to that finite intelligence which we know in man.

If all this be granted, it would seem at first sight as if all were granted which the defender of the design argument claims. If the phenomena of nature really exhibit purpose, intelligence, is not this the goal of our inquiry? It would seem as if it might be fairly expected that we had now reached the end of our tedious and intricate journey. But yet some of those who follow us to this point hesitate to go one step—a necessary step—further. The remarkable developments of what is called in Germany the *Philosophy of the Unconscious* have produced yet another class of objections, about which a word must be said.

Nature, it is admitted, works towards an end; yes, that has been proved, but, does it work *consciously* towards an end? Is there any conscious force behind the intelligence that pervades its operations? And it has been argued that though the workings of nature may certainly be described as *intelligent*, for they plainly have a *purpose*, yet we have no right to describe them as *conscious* workings. Nature may be intelligent, but not governed by any conscious Power. But it is hardly too much to say that if human language has any meaning at all, intelligence implies consciousness; if there be a *purpose* in any process it must be a purpose *in* and *for* some mind. For what is intelligent action? It is that action as Dr. Martineau puts it, in which the future dominates the present—the future consequence determines the present operation. But the future can only be thus influential if it is present in idea, and where there is an idea there must be a conscious mind. Of course it is easy to say that this commonplace and simple argument is *anthropomorphism* disguised; and no doubt it is unpleasant to have any argument on which we rely described by so long a word. But what does the charge amount to, what does the statement mean? If it means that I use the words *intelligence* and *purpose* when applied to the mysterious force at the basis of nature in the same sense in which I use them when applied to myself, then the argument is anthropomorphic. But if I do not so use the words I am playing fast and loose with language; if words are not constantly used in the same sense, our theories and our syllogisms are absolutely without value. The point is:

there is no conceivable sense of the words *intelligence* or *design* which can exclude consciousness. An unconscious intelligence is as much a contradiction in terms as a *round square*. And so if scientific evidence sufficient to prove that nature is intelligent, and that its energies are full of purpose, can be adduced—it is only putting our conclusion in another form to say that the force at the basis of nature is a conscious mind, like to that which each one of us experiences as really himself. There is good philosophy in the adage: “Of God above, or man below, what can we reason but from what we know?”

I have not said anything as to the bearing of the doctrines that are generally associated with the name of Darwin upon the argument before us to night, and that for two reasons: (1) In the first place I feel that no one but a properly trained scientific man, who is personally conversant with the laws of the evolution of species, has a right to speak before an assembly like this about theories, the details of which do not seem to an outsider to be yet finally settled; (2) and in the second place, it does not appear that the doctrines in question affect the philosophical basis of the argument to any appreciable extent. No doubt our increased knowledge of natural law would prompt us in this century to state the argument in a somewhat different form from that in which we find it, for example, in the pages of Paley's *Natural Theology*; but in substance it would remain the same. The question before us was, supposing there to be an overwhelming amount of scientific evidence for what looks like design in the phenomena of the universe, what is our philosophical warrant for attributing that to a conscious designer? Of course the objection that comes from certain of Darwin's disciples—I do not think he would have made it himself—is an objection not on the score of logic, but on the score of fact. It is said that what looks like design in organic life may be otherwise accounted for. It is not a case—to use Professor Caird's felicitous phrase—of the environment being adapted to the organism, but of the organism adapting itself to its environment, and so being able to survive. But it is easy to see that this does not touch the real fact of importance which is that the process of the universe is such that it seems to imply purpose somewhere, however we express its law. To suppose that there are such things as organisms at all, in which each part is reciprocally end and means, is quite enough as the basis of the teleological argument; for this involves purpose.

The fact of organic life seems to be *the* conspicuous fact which helps us to unite in one great conception the phenomena of mind and the phenomena of matter, to all appearance so contrasted. And the root of teleology is the principle that nature is not blind mechanism, but that it is the development of freedom, that it is the field of operation of One of whom it was said: "Of Him and through Him and to Him are all things."

The PRESIDENT (Sir G. G. STOKES, Bart., LL.D., D.Sc., V.P.R.S.).—I will ask you to return your thanks to Professor Bernard for this very learned and valuable Paper, and invite discussion thereupon.

Professor E. HULL, LL.D., F.R.S.—Before any discussion commences I should think some of us would very much like to have the views of the President. I do not know whether it would be agreeable to him to make some observations at the outset?

The PRESIDENT.—I would rather hear observations from others. The fact is, my own mind is not of a metaphysical cast, my attention having been rather directed to other subjects.

Professor HULL.—First, I may, I am sure, say for all here that we have listened with great interest to this very logical Paper. I think that as most of us are accustomed to deal with physical or biological subjects, rather than with metaphysical speculations, we must find it salutary to our minds to have to look at questions from a metaphysical point of view. We have heard metaphysics described as "an attempt to explain to another a subject which we ourselves do not understand"; but I am sure you will all agree with me this evening that Dr. Bernard does not come within that category. He has thoroughly grasped the subject with which he deals, and he has treated it in a very convincing manner from his point of view. Now I am afraid that most Physicists, Biologists, Geologists and others of that school, have been accustomed to regard evidence of design in Nature mainly from a physical point of view based upon the consideration of the wonderful adaptation throughout the whole of natural phenomena whether physical or

biological. How, we ask ourselves, could such a wonderful system of adaptation have been introduced into Nature without the exercise from outside of Infinite Wisdom combined with infinite power, by One who comprehends the end from the beginning? We, as human beings, if we are Theists, believe that the Almighty had an end in view in the organisation of this Universe; and that Man himself, if not the great end in view, was at any rate a very important part of that organisation. But Professor Bernard has clearly shown that we really, as biologists, cannot assert the existence of an All-Wise Creator outside and beyond our world as a distinct logical or mathematical proposition, such as that two and two make four. It is a conclusion that we arrive at from inference and analogy; and he has pointed out the analogy. I come to a certain conclusion with regard to certain results; and I suppose that another person, from the action of his mind, has come to a similar conclusion. But I have no positive proof that that is the case (I am describing what Dr. Bernard has in effect said); I cannot demonstrate *that* as I can that two and two make four. It is an inference; and as he has shown, with regard to the operations and the results of natural phenomena and their bearing on the argument from design, we can only reason from analogy and from inference. But after all, does that work in opposition to the views of the Theist? I do not think it does. It amounts to this—which is the more probable—that this world, with its wonderful adaptations, organic and physical, and their adaptation to their environments, should have resulted from “chance,” or from “a fortuitous co-operation of atoms,” rather than from the action of some intelligent Being outside and beyond our world? I should think that when we come to the doctrine of chances, the doctrine would be infinitely against the former supposition. It would be infinitely in favour of the latter supposition; and it is just on those grounds that we maintain, though we cannot demonstrate it as a mathematical proposition, as we can demonstrate that two and two make four, that there has been design in the operations and results of natural phenomena; and I, for my part, am satisfied with that position. I think that ought to be perfectly satisfactory to the Theist, and that it is not necessary that the demonstration should be of a mathematical kind such as two and two make four, or that the three angles of a triangle are equal to two right angles. That is the conclusion I have

come to on hearing this Paper. I myself have gathered some ideas and views from it which I had not previously entertained, and I am very glad now to have heard them so clearly put.

Mr. W. H. ROBINSON.—I have listened with the greatest interest to the Paper, and I have only one fault to find with it—that it is so conclusive, that I really discover nothing to differ from. The design argument of Paley, in spite of modern discussions, I think, stands exactly where it did. I read Paley in my boyhood, and have watched the course of discussion ever since, but have met with nothing whatever that really contradicts Paley, although it is fashionable just now to look upon his argument as quite behind the present state of intellectual advancement. I have, however, seen much that widens the field of his observations. What does he say? He says, “If passing across a heath I kick my foot against a stone, I might say, if I were asked, that the stone had lain there for ever; but if I had kicked my foot against a watch, and had looked at that watch, I should have seen the minute adaptation of all its parts to a designed purpose.” He then reasons, from a like mechanical or material adaptation of the works of nature, to prove the existence of an intelligent personality, who designed them for an evident purpose. He reasoned in this material or physical way, because he wrote in a mechanical age, at a time when the great machines of Watt and others were just coming into use, and his arguments were adapted to his period. But now we live in an age when more abstract modes of discussion prevail, and we can go further. A writer of to-day would not say, if I kicked my foot against a stone, that it had lain there for ever; for the science of Geology has taught us that the stone itself, whatever it may be, is an organic substance, and that there are certain analyses to which it may be subject. In these remarks, I am only indicating a general line of reasoning which may be followed, not only with respect to the mechanical and physical objects which Paley regarded, but through the whole development of human thought, and every chapter of history of the human race. We see, as our great modern poet says, “One purpose runs through all the Suns”—and that it is a purpose, or a power, working for righteousness. We see it in operation everywhere—we see it in our meeting to-night. We see it all around us, persistently sapping the foundations of evil and triumphing over it—not only in the field of biology and

materialism, but also in the moral and spiritual world. We see, I say, design everywhere. Are we to say in contradiction to all who have gone before us,—that there is no Mind above? In the physical kingdom, I contend that wherever we are able to trace the origin of a force, it is always found in what we call, for want of a better term, Mind. In the long run we always dissociate it from mere physical processes in our thoughts. For example, what has impelled me to stand up to-night? Neither the voice of the speaker, nor even the printed page,—these are mechanical or physical causes—but an impression given to my mind. A force of the same kind made the speaker write his Paper, and thus mind operates upon mind to produce physical effects. In whatever direction force is manifested, whenever we *can* trace its origin, that origin is invariably Mind—whether it be the mind of the brute beast, or the mind of man. Then are we to stop short in those cases where we cannot trace the origin of a force, and to say it does not originate in Mind? That would be a contradiction of common sense, and I think common sense ought to have a little weight, even in metaphysics. I think the last speaker is quite right in saying that Biologists cannot, as Biologists, affirm the existence of God. You cannot prove it in that capacity. But surely the Biologist does not give up his human nature because he is a Biologist. He must acknowledge the truth of the axiom of Descartes which has never yet been refuted. *Cogito; ergo sum.* “I think; therefore I am.” We all feel that we are—we all feel that we think. Analyse the brain as much as you like, talk about the transformation of the grey matter of the brain as much as you please; and you have not got to the mind yet. You have only approximated to it, and the attempt to reach it, and define it exactly, will be like the asymptote lines which every mathematician knows, though for ever approaching a certain curve, yet can never possibly reach it. So it is that Science, or to be exact, Physical Observations, to which the name of Science is incorrectly given, will never find out God. It is not the Biologist’s proper aim to do so, it is not his work. What could he expect? The Modern Philosopher speaks of God as The Unknowable, and the definition of Scripture is that He is “past finding out.” Therein comes out the beautiful harmony of Scripture, even with the most advanced philosophical results, which gives a credit, I might almost say a merit, to faith. We must believe even when we cannot prove. I

do not think, as Christians, that we are bound to consider that Biology and Science can find out God. They cannot do it, but still they point to God. They point beyond themselves to Him. Hence it is that we cannot, even tentatively, account for the Universe. We cannot even use the language of Biology or Science itself, unless, as Dr. Bernard pointed out, we have the postulate of a Divine Being—a design, and then there must be a Designer.

The Rev. A. K. CHERILL, M.A.—I should like to say a few words about the scope of the argument from design. It seems to me that the whole argument has suffered a very considerable change in scope and direction of late since Evolution has come so much forward. In the old times, before Evolution was much thought of, when Paley brought forward his argument from design in the way that has just been described, there was this objection taken against it by unbelievers, and it appeared to be a very formidable one: they said, "Design will prove a Designer, of course, but it will not prove any more. It will not prove a God or a Creator of Infinite Power—but on the contrary, the very idea of *design* involves a finite power, an adaptation of means and ends in using and dealing with material. So that the most you can prove by the argument from design is a finite dealing with matter, the work of one who had to do the best he could with matter and to use contrivance and design in order to bring about his purposes!" That *seemed* to be a formidable answer when the argument from design was brought forward to prove the existence of a God, for if He were infinite He would be capable of producing such effects immediately without the necessity for contrivance and design. Then came the theory of Evolution, which, as has been well pointed out at the conclusion of the Paper, turned the whole argument, as it were, quite round, for it proceeded on the adaptation of creatures to their environments; trying to make out that the whole world had resulted in that way—that it had been formed from some primitive state of things by a long process in which, by gradual changes, creatures had become adapted to their environments. Those same elaborate adaptations that had formerly been put forth as proving a designer, were taken up by Evolutionists, and were said to prove the theory of Evolution. It was adaptation looked at from the opposite point of view. But it seems to me that some Evolutionists have rather failed to recognize that the same objection which Agnostics

brought against the argument of design applies with equal force to the argument of Evolution—*i.e.*, if design only proves a finite designer and not an Infinite God, so, in the same way, Evolution only proves a limited course of change, because in order to start Evolution, you want an organism to be evolved to begin with, and an environment in which it is to be placed and to which it shall be adapted. Therefore Evolution cannot be substituted for creation, but it must start from a beginning already produced in some other way, and it cannot trace things down to their first origin. Then what becomes of the argument of design under the theory of Evolution? If you pursue this theory to its furthest extreme, as some try to do, and say that everything has been evolved by a process of natural selection, or that everything is an adaptation of some kind from primordial matter, where then does the argument of design come in? It seems to me that it comes in in this way. Darwin's hypothesis of Natural Selection is sometimes expressed in these terms—that offspring are not exactly like the parent; but there occur chance variations, and that anyone of those variations which happens by chance to be beneficial to the offspring is preserved and intensified by the action of natural selection. That is all very well as far as it goes, but I suppose every student of Evolution, if the point were pressed on him, would have to admit that when he talks about *chance variation*, he is only using a provisional expression accommodated to his own ignorance. Science has nothing to do with chance. Every effect must have a cause. That aphorism lies at the very basis of Science and therefore we may say that there is no such thing as chance. When we talk of chance, we simply mean an effect of which we do not know the cause. It must have some cause, though we do not know what that cause is. Hence, if we pursue the theory of Evolution to its fullest extent, we arrive at a process, leading from undifferentiated matter up to what we have now. In this process there is no chance and therefore its course could not have been other than it has been; or in other words the course of evolution must have been determined beforehand. By what then was it determined? Supposing there were this undifferentiated matter, why did it evolve in one way and not another? The only possible answer that can be given is that there must have been design—a purpose—some purpose to which the whole process of Evolution tends, and if we ask what that

purpose is—if Evolution can tell us anything about it—Evolution tells us in scientific language that it is the “adaptation of creatures to their environments.” Then, as to environment, what is it? I regard myself, for example, and speak of the rest of the world as my environment. If you fix your attention on any one creature whose evolution you are tracing, everything else constitutes the environment of that creature, and consequently, it follows that not only the separate creatures themselves are suffering change, but the environment is changing also. Therefore there is a process not only of adaptation of the creature to a fixed environment, but the adaptation of the creature and of the environment at the same time one to another, proceeding as it were on parallel lines, an advance here, an advance in another place, all advancing together to a more perfect harmony, adaptation and agreement. The end, then, of Evolution, according to the theory of Evolution itself, should at last be perfect harmony between all things and the environments in which they find themselves; and it seems to me, according to theology, that the end of all things is the same; for the end of which theology tells us is “the Communion of Saints”: rational and spiritual beings living in perfect harmony with each other and with their environment. Therefore as far as we can trace an analogy of one to the other, science and theology tell us of the same design in nature, working out to a predestined or foreseen end, which necessarily implies what we may call an Infinite Designer—a Designer who knew the end from the beginning.

Mr. J. KENNEDY, M.R.A.S.—I think the whole argument must ultimately be based on experience. We infer the existence of God as we infer the existence of our fellow-creatures—by experience. The Agnostic denies that he has this experience. Now we can refer him to one source of experience in which the argument from design is most manifest. I refer to the working of God’s Providence. There are laws of Providence as well as laws of Nature, although they are more difficult to discover. The laws of Nature and of Providence are the expression of the nature and the will of God; in both does He reveal Himself, but while the laws of Nature deal with the general conditions of being—and are therefore more easy to discover—the laws of Providence deal with those special circumstances and conditions necessary to produce particular ends; and thus reveal the traces of design in their most striking forms.

The education of this world is full of the overruling Providence of God in the history of nations. The east wind which drove back the waters of the Red Sea is paralleled by the great wind which dispersed the Spanish Armada. But it is in the private history of our own lives that we realise most fully the workings of Providence—how we were led by ways we knew not to ends we dreamt not of. If a man cannot discover the traces of God's designs in the ordering of his own life, then God must for ever remain a hidden God to him.

Professor H. LANGHORNE ORCHARD, M.A., B.Sc.—I think the remark of the last speaker that design is traceable not only in creation but also in Providence, is of very great importance indeed. There is a remark made on page 6 of this Paper which appears to me to go to the very root of the matter. "If we are conscious of succession we ourselves do not change, we are permanent. That which is conscious of any series of events cannot itself be part of the series." In the same way, I suppose, it would be fair to add that that which is conscious of matter cannot itself be material. If this argument be allowed (and it certainly appears to be irresistible) it does away, of course, with Materialism at a stroke.

I should like to make one or two observations on Kant's argument and those remarks which Professor Bernard quoted from Hume. Kant's argument is that "the power at the basis of Nature is utterly beyond definition or comprehension; and thus we are going beyond our legitimate province if we venture to ascribe to it a mode of operation with which we are only conversant in the case of being subject to the conditions of space and time." I think it is tolerably obvious here that Kant assumes a thing which he ought to prove. Is it so, that "we are only conversant with it in the case of being subject to the conditions of space and time"? That is a *petitio principii*. It is surprising that a mind of such extraordinary philosophical power as that of Kant should use so very inconclusive an argument. The reasoning from adaptation of means to ends, to the purposes of such adaptation, has nothing whatever to do, I submit, with being distinct from Nature or being part of it—with transcending nature or not transcending it. He has brought into this argument what is altogether irrelevant to the point of the argument. Hume's argument that we must not infer that a taper and the sun are in any respect of the same character appears really to refute itself. Surely if a taper gives light and

the sun also gives light, it is a fair argument and a logical conclusion to arrive at that there must be something similar in the two things.

I should be glad to hear Professor Bernard's reply to the common hackneyed objection to the anthropomorphic argument. The very fact that man has an idea of God at all proves that there must be some community of nature between God and him. Further, that man was made in the image of God is pretty good proof that we may, within limits, argue from that respecting Him of whom man is the created image. Man was created in the image of God, and, from the image, we can reason 'up to Him of whom he is the image. The argument of the materialist, with regard to Design seems to follow on his vague and foggy notion as to what Cause is. "Cause is invariable antecedent;" says Mill, but if we understand that there is power to produce a change then at once we get something more than mere antecedence. For instance, the presence of food in the mouth must precede the swallowing of it. To argue that that is the cause of swallowing the food is evidently absurd. The argument from design I think really rests on this basis. In any case in which we are able to trace the adaptation of means to ends to a cause, in every case in which we actually do trace it, we find that cause is intelligent—that it proceeds from one's self or other intelligent being. We also find that if we throw, say, a number of papers, up at random in the air, and do that several times, they do not come down in the same order. We find, if we are to produce a certain order of things, there must be design. In cases where we cannot directly trace the cause of this adaptation, it is reasonable to infer, in the absence of any other possible cause with which we are acquainted, that the cause is similar. The principle that "Like causes produce like effects" is a principle that lies at the very root of all inductive experience. If we reject this principle, we reject the principle of induction. I infer from my own mind that other people have minds like my own, for they perform actions which imply design, and I infer that those people have design and purpose, and therefore intelligent minds; and that assumption, or induction, rather, I would say, is found always to work satisfactorily when I apply it to my fellow-creatures. It is not only the only possible reasonable way of accounting for the facts, but, in every case in which it can be verified, it is found to be true, and it is the principle of induction that

I apply to nature in general. I find, in all things in nature, an adaptation of means to ends, both animals to their environments and their environments to them, and so on. I therefore suppose that in those cases, too, the cause of such adaptation of means to ends is conscious intelligence. That can be none other than God the Creator. This seems to me to be a fair statement of the argument of design which is clearly a matter of logical induction. It is not assumption further than is the intuition, "like effects, the like causes"; but that lies at the basis of all our experience. I wish the Paper had been a little longer, and I join with Professor Hull in expressing the hope that the President will favour us with some observations. Those who heard his Gifford lectures would certainly not be disposed to think with himself that his mind had no metaphysical bias.

Rev. A. I. McCaul, M.A.—I had the advantage of reading the Paper beforehand, and must say that I did so with great pleasure. It is very interesting now-a-days to have arguments in defence of design. I would venture to suggest that the unbeliever's objection (to which Mr. Cherrill referred at the beginning of his remarks) that postulates the finite mind, is extra logical—it has nothing whatever to do with the logical process at all. The last speaker conveyed the impression that is on my mind. The argument as to the watch appears to me to be placed on the same footing exactly as the argument for design. The scientific man compares the eye of the fish with that of the human being, and he sees that the former is so constructed as to be able to see under water and he compares it with that of the fly, and so on, and he comes to the irresistible conclusion that these things cannot have come about by chance, but that they involve absolute design. As was said by one speaker, though it may not be capable of mathematical demonstration, yet it is a recognised logical process of induction. A number of instances have been examined by scientific men, and they have come to the conclusion that there is only one conclusion that is possible, and that is, that these results are to be attributed to an intelligent mind. Whether that mind is Infinite or finite has nothing whatever to do with the logical process. The process arrives at the conclusion that there is an intelligent mind, and those who are capable of examining the matter further go on and by a principle of exclusion come to the further conclusion that these exquisite results cannot be attributed

to man—they surpass all human art, power and wisdom, and cannot have come by chance and must, therefore, be attributed to a supernaturally intelligent mind.

I was greatly interested in the way in which Professor Bernard pointed out the ambiguity with which the word "Infinite" is used, and the difficulties and irregularities to which it leads, and it is, I quite think, an explanation of a great deal of the obscurity that attends these special arguments.

The AUTHOR.—Besides the fact that I have to thank the assembly for the very patient hearing they have given a somewhat tedious and intricate Paper, I think I owe those present an explanation and an apology; and as apologies are not always pleasant things, I had better take that first and get it off my mind. The Paper was said, I think, by one speaker, and felt by all, to be obscure. I know it was; but the truth is that, as Bishop Butler points out in the preface to his *Sermons*, obscurity may arise from different causes—it may be due to confusion and obscurity of thought in the speaker, or to carelessness of expression (and I do not pretend that both those causes are entirely absent in my own case). But there is another cause of obscurity, and that is the inherent difficulty of certain subjects. Now the problems of metaphysics can never be popular, just because they are the deepest problems on which the human mind can employ itself. Let me plead then that it is especially hard in a subject of this sort to combine simplicity of expression with scientific precision.

When I was asked by the Victoria Institute to read a Paper, I selected this topic for two reasons. First, my own studies have chiefly lain in the direction of metaphysics as bearing on Theology, and it is better to speak about something with which one is tolerably familiar. And in the second place, this argument of design has been attacked so much of late years from the philosophical side, that it seems desirable to restate in modern language the philosophical basis of the argument, for unless we have a firm grasp of this, it is in vain that we heap up scientific details.

I am happy to find myself in cordial agreement, in the main, with the criticism which Professor Orchard made on Kant's objection to the validity of teleological reasoning as applied to nature. Such an objection, if sound, would prohibit us from inferring the agency of design as the explanation of the actions of

other men, just as surely as it would forbid us to infer the existence of God from His natural operations.

I again thank you for the kind reception accorded to my Paper.

The PRESIDENT.—Before the meeting separates, I wish to say that if I did not join in the discussion myself, it was not from any idea of the obscurity of the Paper, except in so far as the subject itself is necessarily a somewhat obscure one, but because I thought there were others present who were better able to deal with a question of that kind than myself. Therefore I hope the author will not understand that it implied any disparagement of his Paper.

The Meeting then adjourned.

ORDINARY MEETING.*

THE REV. PREBENDARY R. THORNTON, D.D., VICE-
PRESIDENT, IN THE CHAIR.

The Minutes of the last Meeting were read and confirmed, and the following Elections were announced :—

ASSOCIATES :—General C. W. Darling, Cor. Sec. of the Oneida Historical Soc., Utica, United States; Rev. C. W. Cushing, A.M., D.D., United States; Rev. J. M. Mello, M.A., F.G.S., England.

* March 21, 1892. The Proceedings at this Meeting are not yet ready for publication.