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1904.

ORDINARY GENERAL MEETING.*

PROFESSOR LIONEL BEALE, F.R.C.P., F.R.S., IN THE CHAIR.

The Minutes of the last Meeting were read and confirmed.

The following elections were announced :—

LIFE MEMBER :—Professor Lionel H. Beale, F.R.S.

MEMBERS :—Robert Bruce Foote, Esq., F.G.S. ; Ronald MacGregor, Esq., H.M.C.S.

ASSOCIATES :—George Herbert Payne, Esq., F.G.S. ; Frederick Gard Fleay, Esq. ; Rev. James Marchand ; Thomas Woods, Esq., M.D. ; Henry Proctor, Esq. ; Alfred Lea, Esq. ; Hugh S. K. Ryan, Esq. ; Rev. Arthur Mercer, M.A.

The CHAIRMAN.—I have now to call on the Rev. G. F. Whidborne to read a most interesting paper on the “ Genesis of Nature.”

The following Paper was then read by the Author, entitled :—

THE GENESIS OF NATURE.

By Rev. G. F. WHIDBORNE, M.A., F.G.S.

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* Monday, 14th December, 1903.

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I. THE PROBLEM OF THE GENESIS OF NATURE.

NATURE-study is nowadays in vogue with teachers. But those who confine it to rural life in distinction to the town, and think to meet Nature only in quiet lanes or bare hillsides, restrict their quest too tightly. Nature is all-pervading, all-controlling. It includes the city and the country, the ocean depths and the mountain tops, the heart of the earth and the remotest stars, the most elaborate of the arts and the paths untrod by man. Around us and within us, in the front of our eyes, and at the back of our science, there spreads out this all-embracing essence, this wonderful environment of human living, that men call "Mother Nature." Even Art is not, as would some call it, the alternative of Nature; it is only the offset and the product of that great Nature which is its source and its basis, its magazine and its model. And to-day men ask more than ever what does all this mighty nature mean? Whence came all this which we sum up in a word and comprehend it not? What is the origin, the history, the language, the interpretation of Nature? Can human knowledge unravel the problem of the Universe? Can *scientia* explain *res naturae*?

II. THE FIRST LINE OF INQUIRY, *i.e., BY WAY OF NATURAL FACTS.*

We propose to approach our inquiry by two stages; and in each we shall have to start with an assumption. Our first stage must be to seek to obtain from Nature evidence of its central fact—its governing principle—for it is impossible satisfactorily to explain the existing order of things, unless we go to their root. We may illustrate this mathematically. If a complicated curve be given to us to explain, the first thing we have to do is

to find its centre or centres—its foci—its “origin.” Only thus can its intricacy be reduced to order, and its properties be understood. Even so, if we want to learn what nature means and whence it comes, the first step must be to find its origin, to get back to its real starting point, to get down to its very centre.

1. Only Actual Facts reliable as Evidence.

And for equipment for this search we must start with this assumption—that the ascertained facts of Nature are true facts. Appearances may be delusive; things, which are only fancies, may be mistaken for facts. But what we claim is, that, where we *do* get down to actual fact, there we have so much that is solid and reliable, and that must be counted by us as a self-consistent truth, whatever its relation with other facts may be.

This opens to us at once a vast storehouse of data for use in our inquiry. All natural facts become available, and these are innumerable, every sided, and infallible. Some are so simple and intelligible that the smallest child can grasp them; but others are so abstruse, so inscrutable, so recondite, that the attempts to understand them strain and overstrain the master-minds of science. But of them all only this one thing must be said—whatever data are used in such inquiries must be actual facts—undoubted facts. We must ever be on our guard against the fascinating temptation to read off facts from theories, or to take explanations as if they were as authoritative as the underlying facts, which they purport to explain.

Another storehouse, indeed, is sometimes drawn upon for data in such inquiries; but it must at once be closed with a caution. Imagination is not a good source for data. It may be most useful in its province; it may guide in the search for facts; but it must bear no part in their production. The not infrequent sequence, “it may be, therefore it must be, therefore it is,” is very useful for arriving at preconceived conclusions; that is, for results, which are as secure as the image that rested on feet of iron and clay.

2. Superstitious use of Scientific Phrases.

Before proceeding further it is well to clear the ground by observing a common custom, or habit of expression, in science, which, innocent enough or even helpful in itself, has yet often led to dangerous, and sometimes little realized, confusion of thoughts. Even for scientific students the Ten Commandments

may have a meaning ; and certainly the study of the second of these might put them on their guard against an intellectual danger, curiously akin to the materialistic worshipping of graven images. It is a most common practice in scientific language to personify "nature," "evolution," and "the laws of nature." No doubt it is an old practice. No doubt it very often is a useful practice. No doubt it is in itself a perfectly innocent practice. In itself there is no harm in making graven images. Statuary is no breach of the second commandment. But the harm comes when men begin to idolize their statuary ; and nothing grows more imperceptibly, more insidiously, more dangerously than idolatry.

Let us look then at this vice of idolizing *Nature*. Philosophers who have begun to speak of it as an impersonation, seem led imperceptibly on to think of it as such, to ascribe to it intrinsic powers, to regard it as the autocrat of its laws, to picture it as a kind of demigod, without intellect or personality indeed, but acting just as if it had both personality and intellect. The result is that Nature is too frequently in scientific writings put in the place of God. It is made to occupy in philosophy exactly the position that an idol occupies in religion ; and that with nothing but an idol's power. Nature is assumed to be in its essence the originator of all that goes on within its sphere, and is treated as the legislator of what are called its laws ; it is the doer, the causer, the worker of its phenomena. It appears as a great universal undefined potency, which explains everything except itself. Now all this is, to speak plainly, confusion of thought. No one means, in the present state of knowledge, to assert that Nature itself is the *Auctor rerum*, the prime and ultimate cause ; no one, we suppose, really imagines that to speak of Nature "doing," "arranging," "ordering," is to give a rational explanation of the cause of the effects described. Such phraseology does not find God in Nature ; but it does make an idol, a juju, an obi, of Nature. And the consequence is this—that, in research for the meaning of things, that is accepted as an explanation of them, which is nothing more in itself than a conventional expression, and means, at least in the sense in which it is thus used, actually nothing at all.

The same may be said with regard to the cognate word, "*Evolution*." We are, in regard to this term, in the still further *a priori* difficulty, that everybody knows it means something exceedingly important, but nobody seems quite able to tell exactly what it means. Passing, however, this protean quality of the term, there can be no doubt that science has

suffered grievous loss from the inscrutable veneration, that has been so frequently bestowed upon it as a mentally-graven image. In the darkness of its shrine it has been worshipped with a liturgical jargon of scientific terms; and stranger and more impossible miracles have been attributed to its mystic oracle, than all the priests of all the false gods of heathendom have invented or produced for the furtherance of their material mysteries. And, when brought out into the light, what does the idol prove to be? Nothing; an instrument, not a god; a process, not an intrinsic potency; not an originating cause.

Let there be no mistake in our meaning here. We are not at present raising the question of the validity of "evolution" as an explanation of the history of nature. Whether it be a fact or not, whether it be or be not true in its extremest form, does not affect our present argument in the slightest. All that is now demanded is that, whatever it is, it be rightly used, that it be not superstitiously regarded, that it be not venerated as men revere an idol, ascribing to it properties and powers which it cannot in its nature possess, attributing results to it which, even if they come through it, could not originate in it, degrading it from a scientific question into a superstitious cult.

The same treatment may be demanded with regard to what are called the "*laws of nature*." No sane man would dream of denying those laws. They are generally, and for the most part in detail, evidenced by superabundant proof. Discoveries, perchance, like the mystery of radium, may ever and anon seem to challenge the validity of some accepted law. There may be, doubtless, here and there laws, asserted by philosophers, which are not really found in the statute-book of Nature. But that is not the question. Grant to the full the existence, the supremacy of the laws, what is required is to treat them as what they are, and not as what they are not. They are laws governing Nature, not laws ordained by Nature. Ask Nature "where are her laws?" and she reveals them upon every hand. But ask Nature "where is the law-giver?" and the only answer Nature can return is: "Not in me. I obey the laws; I do not originate them. I am their servant, not their mistress." And yet no law can exist without a law-giver.

3. *Natural facts indicative of effects.*

Having thus dealt with these preliminary cautions, having thus attempted to clear away the idol-shrines that block the

pilgrim path of science, we must venture to approach the centre of our subject, to seek with reverent step to explore the Holy of Holies of Nature. We must try how far we can get to see into the very heart of the universe, to discern what is its cause and origin, what has given it the power to be, the energy to become, the potency to progress. Nature, evolution, the laws of Nature, only lead to it; they are not it themselves. They are only pathways to (to our perceptions "to," but in their reality "from") the centre, the focus, the origin of the Universe. To that ultimate goal we must press forward; for, until that be found, the meaning of the universe cannot be discovered, the arcana of nature cannot be revealed.

We proceed, then, first to a survey of our storehouse. We have not yet to deal with its data in detail; that will best be left till we have obtained the key to their interpretation; but we have to take them now in general view, to look round with bird's-eye ken on the vast facts of the existing and historic universe (as far as we may know it), and inquire how it can be that they are what they are. What is their value as facts? What is their scope as a basis for deductions?

The answer is that, without exception, the visible in Nature is the exposition of effect. What it tells us is that there is force everywhere bringing things to pass. The buds swell on the bare tree and transform it into a summer maze of foliage. The spring air is suddenly filled with myriads of dancing insects. The clouds gather in the blue, and roll in majestic masses through the sky. The restless rivers are stayed in their courses and transmuted into hard and unmovable solids. All these are effects. And we are asked what produces them. We may give in reply most elaborate and scientific answers explaining most beautifully these effects. But these answers will be generally found to be scientifically limited; they do not get to the bottom of the elucidation of force; they do not reach the scientific end of the catena of cause. Thus the question, "How comes the ice?" seems simply answered by saying "by the cold." But that answer is defective. It is trading with the unknown. If we go a step further and ask "what is the cold? what is it? not in relation or modification, but in origin and intrinsic nature?" we find ourselves becoming entangled in those dim marches of science where the roots of things abound and are inexplicable, where to attempt an answer can only result in darkening counsel by words without knowledge. Or again, if we ask "what makes the buds to swell?" the simple answer is "life." But when we

ask "what is life? what is the scientific explanation of its essence and origin?" we have asked a question, which human knowledge cannot answer, and of which curious philosophic definitions and ingenious scientific explanations are nothing but dignified paraphrases for "we cannot tell." But yet as we meet these multiform facts of nature, these effects, profuse and world-long, each one of them has in turn just this one question to ask of us, "Is there not a cause?" And to its question it takes no loose reply. Known or unknown, some primal cause for each effect must be.

4. Cause must be adequate for effects.

Further, not only must these effects be due to cause, but cause must be adequate for the whole of the effects. Advance, produced by the interaction of correspondences, does not obliterate the need of a sufficient cause behind. Grant, if you will have it so, that the giraffe's neck grew because it wanted to feed upon high trees! It only grew because it was able to grow. That is, there was a potency, an efficient cause within, which gave it power to correspond to its environment. The measure of that efficient cause was not the original short-necked creature, but the longest-necked giraffe that was produced by circumstances. The sum of the causes that produced first the short-necked creature, and then the giraffe from the short-necked creature, is the same, neither more or less, as the amount of cause required to produce the giraffe instanter. Or again, the ordinary growth of any creature to maturity from the embryo must have a sufficient cause. That cause is not hard to find. It is given, at once, by the antecedent paternal form existing in its maturity. The young grows up to the state of its parent, just as water finds its own level. Thus far, and no further, the effect has found a sufficient cause. But sometimes the young, as it reaches maturity, goes a little further than its parent, is a little finer, better, more advanced. Where is the cause for this effect? Not in the state of the parent itself, not in the amount of force put forth, *per se*, in the proximate progenitor. Here is a modicum of effect which has not found a cause. But the cause must exist. The smallest modicum of effect cannot be causeless; the cause must be somewhere behind, somewhere in pre-existing force that has not been revealed in the parent, and yet potentially exists. Now let us, for the purpose of the present argument, assume the truth of the Evolutionary Theory to its fullest extent. Call this small modicum of effect "evolution," and to account for this

evolution you have a small modicum of unrevealed cause. Next, take a sufficient series of these small effects to produce on evolutional principles a new genus or family, you have of necessity an equal series of small modicums of cause, which taken together add up to an amount of cause sufficient for the production of that new genus or family. Now, take a birdseye view of evolution as a whole ; sum it up in effect, and you find you must not neglect the other side of the equation. You have to answer it an equally large sum of unrevealed cause. The total effect of evolution requires an amount of cause correspondingly great. And as, on the hypothesis, Evolution produces everything, you are left on the other side with an amount of unrevealed cause, sufficient to produce everything. That is to say the existing facts of nature, taken all together, being effects, predicate the same amount of originating cause, by whatever theory their history is explained.

But it may be objected here, that in working out our problem we have neglected most important factors, which in the eyes of evolutionists have themselves, one or more of them, accounted for the effects. Such are Natural Selection, Sexual Selection, the survival of the fittest, the struggle for existence, correspondence to environment, and suchlike. Undoubtedly these questions are most important ; and, in specific steps of evolutionary advance, they do require the utmost consideration and careful weight. But yet, if we candidly examine the whole problem, we find that all these terms of it "go out." They are interactions, not self-contained causes. They are viaducts, not fountains of originating force. Whatever potency is in them comes through them from somewhere else, and in its passage it no more grows than does a river grow ; the apparent growth of which is simply due to the imperceptible addition to it of fresh supplies of that from which it originally took its source, the rain from heaven. And thus all these, and similar explanations of evolution taken together, however subtle, however important, however true, add up (when we are working out the relation of the effects of nature to the original energy that was needed to produce them) to nothing ; and therefore, in spite of them, the existing effects require exactly the same amount of originating cause, whether evolution and its explanations are brought into, or left out of, consideration. Evolution and its explanatory theories may have much to say on the methods by which the originating causes or their forces work, but with their intrinsic amount they have nothing whatever to do. This indeed is, after all, almost a truism ; but it is advisable to be clear about it ;

because it seems a very frequent impression, that the need of an originating cause is somehow reduced, or even done away with, by evolution and its adjuncts.

5. The relationship of the material and the immaterial.

It may be as well, here, to note a point in the history of the Evolutionary Theory. It was first propounded, or at least prominently set forth, as an hypothesis to account for the state of physical animated nature; but, since then, it has been extended to explain both on the one side changes in non-living matter, and on the other hand things that are immaterial, as for instance language, morals, and even religions. Now all that we have to say, at present, is that, if in regard to each of these three spheres the substance of the theory is claimed to be the same, its attributes must in each case also be the same. If the fact, which we have just reached, that the amount of cause required to produce existing effects is unaffected by evolution, holds in the sphere of physical life; then we must equally conclude in the spheres of inanimate physical nature, or of immaterial nature. For any other conclusion would amount to an assertion that the theories were not the same in the three different spheres; and evolutionists would be thereby convicted of employing the same term to express diverse ideas, and in fact, would be acknowledging that the very uniformity for which they were arguing, was non-existent. We may therefore take it as a general principle, that all the facts of nature in whatever sphere predicate the same amount of originating cause, by whatever mediate methods they were brought about.

Returning to our storehouse, we learn another general point about its data. They have to do equally with things material and immaterial. In existing nature matter and non-matter is inextricably mixed up; they cannot be dissevered into independent classes. Everywhere we find matter taking different forms, possessing various qualities, performing diverse functions; but, along with it all, something is persistently present which is not to be accounted for by it. Moreover, this something is not always the same; it is as various in detail as it is consistent in its variety. To class it together as the non-material, is simply to draw a line of exclusive classification round matter. And yet with matter it is sometimes most intimately in union. Thought and the brain, for instance, are impossible to disunite, though one is material and the other is not; but, intimate as they are, they cannot owe their origin to

each other. Certainly the matter of the brain did not come into existence by thinking ; as certainly thought cannot owe its origin to the mere mechanical structure of the brain. Just as something must play upon the organ to produce the harmony, so something must play upon the brain to produce the thought. We need not go further into these abstruse subjects ; we need not lose ourselves in metaphysical labyrinths. Only thus much is necessary for our purpose ; that mind and matter are in constant and intimate connection in Nature, but yet that the framework of all nature, as we know it, is matter : that mind, indwelling animated nature, is an effect which predicates a cause for its existence : and, further, that it is impossible either that matter could have been the prime originator of its endemic mind, for evidently, then, as life is greater than death, the effect would have been greater than its cause ; nor on the other hand is it possible that matter could have been the prime originator of itself, for then we should have an effect without a cause at all.

6. Search for the Cause of Nature.

We have thus obtained some important landmarks for our guidance, and using them, may make our final start upon our quest. We look once more upon our vast equipment of data. We survey the sky, the air, the earth, the sea, the underground, and find them all teeming with natural facts. We meet them in their myriads—the vast army with its serried ranks—around us in the common objects of the country, or coming constantly in fresh multitudes into view through telescope and microscope, or revealed by the opening up of new and unexpected lines of scientific discovery. And of them, all and each, the question is,—“how did they come to be ? what cause do they result from ? what power can have brought them all to pass ?”

1. They are, as we have seen, effects ; therefore they must have had a cause, or causes.

2. That cause or causes must have been sufficiently potent to produce them each and all.

3. Therefore their magnitude and multitude prove that their cause or causes must have been transcendent.

4. They are, in part, material ; therefore, unless we acknowledge the eternity of matter, they must have had an origin ; their cause or causes must have been prior to themselves.

5. The eternity of matter is unthinkable. It cannot be conceived that matter existed always, because, however far back we conceive it to be, a reason for its being is always still

required. It could no more have been without an origin than it could originally have produced itself. It could not, we have seen, have produced itself; therefore its origin must be sought elsewhere.

6. It must therefore be said, that nature, founded on matter, must have been produced by some anterior thing or things. It must have had an originator or originators.

7. That originator or originators could not be the immaterial part of nature itself, for that is dependent on the material part, and has, as far as we can see, no power or vitality, which is not founded on the material part.

8. What, then, can be the originator or originators of nature? There appear to be only two possible conceptions thereof. Either it must have been chance; or it must have been a being or beings more or less intelligent.

9. Could it have been chance? Could the universe have been produced by accidents? We go back once more to our storehouse of natural data, and look over them to see if this is a possible solution! But one thing we observe in them, which has indeed been observed by all students of nature from most ancient days, and that is the universal prevalence in it of order. In its *ἀνήριθμον γέλασμα* everywhere, there is everywhere orderliness. In its infinite variety there is on every side plan, adaptation, natural law, continuity and correspondence. In nature there are complications endless, but nowhere confusion. But as is the cause so must be the effect. Chance could only have produced confusion. If chance had produced the universe, the existing universe would have been one mighty mass of disorder; and that is exactly the opposite to everything which we observe. And therefore we can positively and logically assert that the universe could not, and did not, originate by chance.

10. We are therefore driven to the conclusion that it must have come by the work of an intelligent originator or originators, one or more. Which was it? Again we go to the storehouse of nature; and at once modern science rushes to our aid. If there is one pre-eminent fact which the advance of science has brought into view it is the unity of nature. Continuity is found in it everywhere. The correlation of natural forces is declared. The uniformitarian theory has left among its ruins abounding exemplars of the age-long congruity of natural laws. Most of all the great doctrine of evolution, whatever else it has done, has at least established the *possibility* of tracing all existing variety back to unity. The more strongly it is asserted, the more emphatic is its proclamation of the uniformity of nature.

That indeed is its kernel-thought, its very mainspring. Realized or unrealized, underlying unity is the only basis upon which any theory of development can possibly rest. Whether the superstructure be sound or not, every worker who attempts to build it must of necessity start from this foundation. If evolution claims continuous supremacy over all kinds of life, it is thereby simply asserting the original unity of animated nature. If it goes so far as to demand the identity of life and non-life, if it claims sway, not only over things material, but over things mental and moral as well, it only thereby the more imperiously proclaims that in all things natural there is an impress of pristine unity. Whether evolution to its full, or indeed to any extent, is to be accepted, is not the question here ; the sole point is that its very employment as a working hypothesis, a possible guide to the history of nature, implies the *a priori* acknowledgment of the unity of origin of that nature. Original unity cannot be consistently denied by any evolutionist ; but original unity in things made (whether in fact, as the extreme form of the theory requires, or in conception as any form of it requires) must predicate actual unity in the maker ; for it would be an absurdity to imagine two originators setting out to produce Nature, and from their diverse starting points independently producing unity or uniformity in their twain productions. Moreover even those who reject the theory of evolution, agree with evolutionists in acknowledging this underlying uniformity, or unity in principle of existing and original nature. And this fact, thus acknowledged on all sides, can mean nothing else than this ; that the originator of nature was one, was intrinsic Unity Himself.

11. We have then reached thus far—that Nature, that the universe, had one intelligent Originator, one antecedent Creator. But we must ask one more question of our storehouse of data. What do they predicate to us with regard to His intelligence, and to His moral character ? Can it be said that the intelligence to be imputed to Him is only sufficient to distinguish Him from chance, a measure of intelligence enough only to produce the most archaic things ? What do we see ?. One thing we have found to be certain ; the cause must be adequate for the effect, for all the effects that have been produced thereby. The measure of the intelligence of the Producer is not His first production, but His last ; not His lowest work but His highest, or rather the sum of all His works taken together from the lowest to the highest. If we see in nature, not only unity, but the working out of that

unity into an infinite elaboration of order; if all things natural are so arranged as to form one great *κόσμος* in which power, beauty, adaptation, variety, vastness, utility, correspondence, law, advance, are all in harmony, all in rhythm; if we find through all, not only signs of material harmony, but of moral and beneficent good; if we learn that even the known facts of nature are not its full store, and that science like a householder is still bringing forth from its treasury new marvels with a hand so lavish as to prove an untold wealth behind; then for all these effects there must be an adequate cause. That cause may indeed be indefinitely greater than the effect; it cannot be less than the effect; and therefore we have in all these facts of nature nothing less than a demonstration of the vast, infinitely vast, intelligence, morality and beneficence of the one Creator—God.

12. And thus we have reached the goal of our quest. We have from Nature learned, at least in some degree, to know the one intelligent Originator of it all. We have found the centre, the focus, the origin of nature—its Creator—God.

7. The effect of the discovery of God in Nature.

Here we might stop; and with this master-key seek to unlock the meaning of the varied facts of nature in detail. We might examine how the Fact of God, brought down into the purview of science, explains its intricacies and elucidates its mysteries. We might seek to trace out the varied curves of nature, to understand their powers and interpret their properties by starting their detailed examination from the centre we have found. If we did this we should be doubtless well repaid; for, if nature reveals the fact of God, the fact of God explains nature. From the standpoint of the centre of any curve, its nature and meaning, its character and beauty can be perceived in a way that is impossible from any other point of view.

III. THE SECOND LINE OF INQUIRY, i.e., BY WAY OF KNOWLEDGE OF THE CREATOR.

1. Search for knowledge of the Creator from facts external to Nature.

But though we have thus reached the end of the first stage of our inquiry; though from the facts of nature we have thus “felt after” nature’s God, and discovered from these His works the dimly grand perspective of the fact of their Creator, to stop at this would be assuredly to stop too soon. Rather, we may

go forward, and enter upon a second stage of our inquiry. The lessons from the effects do not of necessity exhaust the knowledge of the cause. We may ask, if there is not more to be learned about God, than even nature teaches. If God be adequate to have produced nature, may He not be adequate for even more than that? May we not learn from other sources still more about Him; and, if we can arrive at this further knowledge, may it not give us yet further insight into His ways and purposes, His power and His plan in the production of things natural, than that which can be attained from the study of even nature itself? As there is a revelation of God in nature, is there to be found any other revelation of Him elsewhere. And if there is, may we not examine that, and see if it in any way enlarges and defines our conception of the Nature of God?

And here, in starting on this second stage, we claim to make this second assumption, that the words of God are true words. We claim that, where we have an assertion that can be shown to have come to us from God, that assertion must be taken as beyond controversy. It may not be understood, but it must not be denied. It may be capable of bearing more or other meanings than we ourselves may put upon it, but in itself it is a thing which partakes of the nature of God, and demands that we should construe it by the infallible authority of that nature.

2. *The fact of the Bible.*

Our search for a revelation of God outside nature is at once met by the great fact of the existence of the Bible. Whatever be said about it, the fact of the Bible cannot be denied:—that we have in it, a compendium of writings from different pens, and certainly of great but different antiquities, which taken together profess to be, and have been largely acknowledged to be, a revelation from God. There can be no doubt that nothing less than this is its claim. It needs no scholarship to discern thus far. The plain reader as he turns from page to page, cannot avoid coming to this conclusion. He finds it simply full on the one hand of information concerning God, and on the other of sentences which are asserted to be the “*Ipse Dixit*”* words of God. The question comes therefore: “Is this claim of the Bible to be acknowledged? Is the Bible to be accepted as containing the message of God?” Now it is evident, that to

* “And God said.”

answer this question exhaustively would need a treatise in itself. The full proof must go into much detail, which it would be impossible here to attempt. It would from its nature, not only need long historical disquisition ; but the examination of the internal evidence of each particular book. But without attempting this it may here suffice to give in outline reasons why this claim must be admitted.

(1) It is to be observed, that, if the claim be not true it is false ;—in a large degree it is knowingly false. The words “God said,” “Jesus said,” govern a very large proportion of its pages. The question, therefore, resolves itself into this :—is it thinkable that a book being what the Bible is, and containing what the Bible contains, can be even in part knowingly false ; because otherwise it must be true ; and therefore its claim to be the Word of God must, speaking generally, be true.

(2) It is also to be observed, that the fact of the historic character of the Bible can be abundantly established. The New Testament can be traced back by external evidence to, or to the borders of, Apostolic times. Not only from Christian, but from heathen, sources the historic character of its facts and incidents may be largely confirmed.* Thus we reach the historic Christ, and through Him, as well as through Jewish (and archæological) sources, we reach the general historic fact of the Old Testament, accepted by them as the authoritative Word of God. Without entering on questions of Higher Criticism, the Bible can be shown to have been, as it is, regarded by the ancient Jewish Church for centuries before the Christian era, as at once a history and a revelation. Its historic facts are still receiving more and more confirmation from archæological discoveries. Its places are being unearthed, and reinstated as the landmarks of its land. Its connections with coeval nations are being verified by the freshly discovered archives of those nations. Very recently a remarkable exemplification of this has occurred. Doubt had been cast upon the Mosaic social laws ; it had been argued that they presented too matured a civilization for their asserted age ; but now the laws of a Chaldaean king, centuries before Moses, have been found† ; and some of these social laws so tally with the

* To take one subsidiary instance—it is implied by Roman annals that at Ephesus, at the time of St. Paul's visit, there were “deputies” in power there, as stated in the Acts, whereas the almost universal Roman rule was a single governor ; the words “town-clerk” and “worshipper” are found on Roman coins.

† Dr. Pinches, *Trans. Vict. Inst.*, vol. xxxv, p. 228.

enactments of the wilderness, as to fix their correlation, and indicate that Moses might have been in part restoring to his nation, debased by Egyptian bondage, the better economy of their pristine fatherland. The founder of Babylon—a link in the line of Shem—has thus become the oldest alien witness of the historic character of the Pentateuch.

(3) It is also to be observed, that the unity of the Bible, as from a single source, is to be supported internally by numerous undesigned coincidences. These, often almost imperceptible in their individual selves, occur in so great crowds as to bind the whole book together into one organic whole, both confirming its historic truth as a record, and showing all its parts to be, whatever their human authorship, evolved from a single intelligent over-ruling source.

(4) It is also to be observed, that the moral teaching in the Bible has yet to be accounted for, unless its claim to inspiration be allowed. To judge the Bible fairly, as to its moral character, we must take it as a whole. The Gospel fulfils, not destroys, the law. From Genesis to Revelation there is a congruous moral whole, in which is found no more specific difference than is found in nature between the bud, the flower, and the fruit. And how is that whole, that compendium of moral law, to be explained? It may be compared with other human productions; but in doing so from the latter must be of course eliminated whatever is, or may have been, derived from the former. Only by this process from these unassisted human productions can we find the sum of morality of which unassisted humanity is known to be capable. It is this residuum which has to be compared with the morality of the Bible; and comparing this, the vastness of the difference is at once apparent. What remains we may call the special morality of the Bible, and with regard to that (and how great it is) we have this dilemma. It professed to have come from God. Therefore, if its source was merely human, its profession being false, it was not only human but, because false, immoral. Thus the highest morality was derived from immorality, and that may well be said to be absurd. Therefore the special morality of the Bible is a decisive proof of its divine inspiration.

(5) It is also to be observed that the religious teaching of the Bible has yet to be accounted for, unless its claim to inspiration be allowed. What has been said of the moral tenets of the Bible may be said with still greater force of the religious teaching. Unless the Bible be inspired, its whole religion, its whole theology, falls to the ground. If it be true, it

has no other possible source than inspiration. And if it be false, seeing what it is, how is it to be accounted for? Is it a structure which it is conceivable to have been built up by a series of impostors? The dilemma is here again; the authors of the Bible professed to have received its religion from God, and therefore unless that was an actual fact, they were nothing else than conscious, or unconscious, impostors. Now it may be said that the innumerable correspondences in the Bible render the idea of its being an unconscious imposture impossible. Passages from its different books could not have been woven together, in the way in which they are woven together, without definite intention; and if this were not done by the intention of God, it must have been done by the intention of man; that is, if there were imposture, it must certainly have been intentional imposture. Hence we are reduced to the question—could the religion of the Bible be regarded as an intentional imposture? Its nature, its scope, its origin, its structure must be examined on that hypothesis. If it was an imposture, what was its purpose? What good was it to do? Certainly it brought no temporal benefits to its authors; their earthly position was not improved by their writings, often the reverse. Nor could its object have been to bring good to those to whom it was written, seeing that its authors knew it to be a fraud. So, unless the Bible was inspired, its religion was built up without purpose. And the effect it has had upon mankind is the accidental effect of a fraud. That effect has only to be measured to prove the absurdity of such a supposition. Consequently it is evident that the religion set forth by the Bible, is in itself a proof of its inspiration.

(6) Most of all it is to be observed that there exists, over and above all else, a direct proof of the inspiration of Scripture following on a personal knowledge of Christ. This proof is *of course* only available to those who are convinced Christians. To all others, the premises are unknown; and therefore the consequent result cannot be demanded. But even as the want of the knowledge of Greek in some renders the Iliad a closed book to *them*, but does not debar those who do know Greek from understanding the Iliad; so the absence of a personal knowledge of the Lord Jesus Christ in some does not lessen the value of His authority to those who do personally know Him. So this proof must be stated for the sake of those to whom it is available; all others must stand by and only judge its weight, by what they see in those whom it affects. Now it is alleged by no inconsiderable number of mankind that

they do personally know the Lord Jesus Christ. Moreover this asserted knowledge is commonly seen to have a most marked effect on their lives. Their lives, and sometimes their deaths, are proofs that this asserted knowledge becomes the dominant factor in their being. It results among other things in their regarding the teaching of Christ not only as authoritative, but as having infallible authority, based on their personal experience of the infallibility of its Author. They believe Him implicitly; therefore they believe His testimony implicitly. And His testimony concerning the Scripture is that it is the Word of God. Of that he spoke with authority and not as the scribes. His words in St. Mark x, 6, 7, alone mark its first chapters as the authentic records of creation. "From the beginning" (Gen. i, 1) "He made them male and female" (Gen. i, 27) "therefore shall, etc." (Gen. ii, 24). And as the seal of Christ stamps the Old Testament as the inspired word of God, so is the New Testament stamped as such by the fact of Christ, for it is composed either of His own words or of teaching derived from Him.

3. The revelation of God in the Bible.

Thus we have found that the Bible can on many independent grounds be definitely proved as a revelation from God; and that this proof may be reached in two distinct ways: (1) by a personal knowledge of the Lord Jesus Christ, who then becomes, to those who know Him, the final authority on its inspiration, and (2) by the ordinary scientific examination of its history and its contents, and of all the facts that are known about it from whatever source. Consequently, as it is given by inspiration of God, its words are true words in regard to that which it is its purpose to reveal. Now what at present we are seeking is to form a conception of God Himself. May we therefore seek to form that from the Bible? Without the slightest doubt the primary purpose of the Bible is this very actual thing—to reveal God to men. Even if we might use the Bible for nothing else, at least we may use it for this. It is the handbook to the knowledge of God. It is a storehouse of data, authoritative for the science of God. It is the revelation of God by God. As the Bible conveys the true word of God, the view which it presents to us of God Himself must infallibly be true.

4. God, as seen in Nature and in the Bible, identical.

But before going further, a question may be asked, and a

limitation suggested, which it may be simpler to consider at the outset, although in doing so we may have to use by anticipation some of the evidence about God, which we shall presently draw from the sacred storehouse of Scripture.

First, then, it may be asked, "is the God whom we have found from Nature the same God whom we find in the Bible ?" It might be conceived, that, after all, they might be different beings. Gnostic notions might be brought in to suggest a relationship with a difference. But to answer this we have only to compare the two conceptions of God, given to us respectively by Nature and by Scripture. We look in brief to the view of the Being of God which is presented to us in Holy Writ. He is described (to take but three places out of many) as, "the King Eternal, immortal, invisible, the only wise God," "the Lord God omnipotent," "the Creator of the ends of the earth"; and everywhere throughout Scripture the same view of His peerless Majesty is given. If Scripture be true, He is God supreme and God alone. But we have already seen that the God about whom we learn in Nature is single and supreme, its one first cause. Therefore, the God of Nature and the God of the Bible must be one and the same. There is no room in the universe for more than one God, whether as revealed by nature or by Scripture. Therefore, whatever we learn of God in nature is knowledge of the God of the Bible; and whatever we learn of God in the Bible is knowledge of the God of Nature; and, therefore, whatever we know about God is knowledge which applies to either sphere; and more particularly for our present purpose, whatever we discover of the character of God from the Bible may be scientifically used to explain the ways of God in the realms of Nature.

5. The Bible not a scientific text-book, but authoritative about God.

Secondly, the limitation may be suggested that the Bible, however true as a revelation, has no scientific purpose, and therefore cannot be consulted as a compendium of Science. It may be said, and very often is said, that its expressions are those of the current state of science at its time, and that later discoveries have accumulated vast stores of natural knowledge of which its human authors were entirely ignorant. We may freely grant all this. We have no wish to turn the Bible into a scientific text-book. Its purpose was certainly not to record philosophic theories, or to chronicle natural research. No one supposes that its ancient writers were versed in the scientific

methods of modern days. No one imagines that Moses, or David, or Paul, were acquainted with the doctrines of evolution or the laws of electricity. But for all that, it is not wise to forget that the Bible has not only a human but a Divine side. If God is indeed the actual Maker of Nature, *He* must have known all about its true laws and methods, even if Moses did not; nay, even if possibly philosophers of the present day have not yet quite fathomed them fully. And the Bible is the Word of God, that is, it is inspired by the Author of Nature; so it is not quite safe for any man, however learned, to scout its science, or to charge it with ignorance or misconception of natural facts; for it is quite possible that its simple statements may go further down into the roots of knowledge than do the most recent researches of current philosophy. Its words of truth, unscientifically stated, yet may antedate the scientific unveiling of the truths which they contain; and the office of science may be not to surpass the natural facts of the inspired record, but to elucidate them and interpret their real unappreciated meaning. What does the idea of inspiration imply? To say the least, it implies that the human authors were not the unaided authors of what they wrote. To assert that they only wrote what they themselves knew by their human learning is simply to rob inspiration of its force. On the contrary, the set claim of the Bible is that its authors did not themselves fully understand "what things the Spirit of God which was in them did testify." They sought, and sought in vain, to measure the ultimate meaning of the words they uttered. Inspiration, apart from its methods, is the assertion of the fact that God gave men His messages to deliver to their fellow men. It does not indicate that His messengers understood the message. Nor does it affect this question whether the message was delivered in the words of the Sender or of the Messenger. If the message was rightly delivered (and that at least is implied by inspiration) it must have carried the Sender's meaning in whatever words the Messenger delivered it. And therefore, it must be concluded that the assertions of the Scripture are in themselves intrinsically true, in whatever phrasology they may be clothed. Consequently the meaning of statements given by inspiration is not to be measured by the amount of knowledge which the writers of the Bible had, or may be supposed to have had; and to set up their personal knowledge as a limitation to the scientific truth of what they wrote, is to strike out the major factor in the equation of Scripture.

But, after all, this suggested limitation does not affect our immediate question. We are not at this stage of our inquiry

attempting to learn any science from the Bible. We are not now intending to examine any statements it makes about natural phenomena. We are only seeking to form a conception of God Himself from what is revealed to us by the Bible about Him. And this, undoubtedly, is the Bible's own peculiar sphere. This is its first object, the keystone to its meaning in all besides. On this question it is paramount; on this it is peerless; on this it is authoritative. If the Bible is not a true revelation of God it could not be a revelation from God.

6. The Biblical Conception of God.

What then is the conception of God, which is given to us from Holy Scripture? Thus He is described. He is the one and only God (Mark xii, 32). He is untiring (Is. xl, 28), eternal (Rom. i, 20), infinite (Rom. xi, 33-36), omnipotent (Rev. xix, 6), omniscient (Acts xv, 18), omnipresent (Jer. xxiii, 24), unsearchable (Rom. xi, 33), unapproachable (1 Tim. vi, 16), immutable (James i, 17), patient (Ex. xxxiv, 6), invisible (St. John i, 18), all wise (Rom. xvi, 27), righteous (Ps. cxlv, 17), good (Nah. i, 17), merciful (Ex. xxxiv, 6), bountiful (1 Tim. vi, 17), glorious (Ex. xv, 11), just (Is. xlv, 21), holy (Lev. xx, 26), and true (1 John x, 20). He is love (1 John iv, 8), and the source of love (1 John iv, 7). He is living (St. John i, 4), and life-giving (Acts xvii, 25). He is the first and the last (Rev. i, 8). He is before all things (Col. i, 17). He it is in whom all things consist (Col. i, 17). He knows the end from the beginning (Is. xxvi, 10). He is perfect (St. Matt. v, 48). He made the worlds (Heb. i, 3). He created all things (St. John i, 3). From everlasting to everlasting He is God (Ps. xc, 2).

Yet further of His Being we have three majestic views. He is unapproachable (Ex. xxxiii, 20). He is a Spirit (St. John iv, 24). He "is" (Ex. iii, 14, St. John viii, 58).

Such wonderful truths do we learn from Scripture about God. Much more indeed is told us, which carries our conception further. But the data here given seem enough, and more than enough, for the object before us; always remembering that, where one text has been quoted, it is frequently but one out of many with the same relation; and that in the Bible God is constantly displayed not only by descriptive words but by the portraits of His acts and purposes.

Can anyone consider this manifold revelation without awe? Verily, as we calmly survey it, all other facts in heaven and earth sink into insignificance beside this stupendous con-

ception of divinity as it is unrolled before us from the lines of Holy Writ. Can anyone form a conception of God from these descriptions without confessing that it is clear in its fulness, but that at the same time it is infinitely above the mental capacity of any finite intellect to grasp. It is a mathematical truism that the finite cannot measure the infinite. So can no human intellect measure God. Man may know God, but he cannot measure God.

And, not only in Himself, but in His attributes, is God above the measure of a man. Take one fact of revelation alone. We have seen that matter must have had a beginning. But God is eternally self-existent. In the presence of Jehovah, time itself and duration becomes an episode. Herein to human understanding the things of God have reached the immeasurable.

But there is another side of the revelation of God in Scripture, which we have as yet hardly touched. Revelation is given us, not only of the Being and the Character and the attributes of God, but of the ways of God and His methods of working.

This, too, is a stupendous subject; one which transcends our power to measure or describe. But yet of it a few things may be said. He works with a purpose, an eternal purpose (Eph. iii, 2). He works and controls by the method of law (Deut. xxxii, 4) and order (Gen. i). His ways and thoughts are superhuman (Is. lv, 9). He has perfect knowledge in, and of His works (Acts xv, 18). His conscious care extends, not only to the vastly great, but to the minutest details (St. Luke xxi, 18). There can be no shadow of ground for attempting to explain away as allegories the plain and precise statements of our Lord: "even the very hairs of your head are all numbered," and "not one sparrow shall fall on the ground without your Father." These are quantitative statements of value, used by our Lord to prove an important truth, which He desired His disciples to believe and realize; and if they were only allegorical, His conclusion would be invalidated. Our Lord was not given to loose reasoning. We are obliged, therefore, to take these statements as meant to literally describe our Lord's view of the minuteness of the care and governing oversight of the Almighty; and one thing is certain, that, whether He knew the conclusions of modern science or not, He knew God. We have, therefore, no option but to conclude that the revelation of God, as to His ways, in the Bible is that of a God, who works by law and in order and consistently indeed, but who yet controls with individual

conscious care the minutest details of all His infinitely vast creation.

7. *This Conception applicable to explain Nature.*

Let us now briefly recapitulate, in order that we may see clearly where we are:—

1. We have learned from Nature, alone, the fact of the existence of one God—the Author of Nature.

2. We have formed from Scripture, alone, a conception of God, the same God who is the author of Nature. This conception, as learned from Scripture, is most wonderful and awful; it has shown Him to us in His person and in His work, in His mind and in His methods. It far transcends our powers to grasp in its fulness; but, up to the limits of our capacity, it is clear, definite, and precise.

The problem now presented to us is this, “Does this conception of God explain the fact of Nature? Is this conception the master-key which shall ultimately unlock the inmost secrets of science? Is it a light, which, thrown upon the discoveries of natural research, shall by-and-bye reveal their true meaning? Is it a touchstone, which brought to bear upon the demonstration of philosophy, shall gauge their ultimate value?”

No doubt it may be objected, here, that this is a forbidden way to approach scientific questions. It is said that the idea of God belongs to theology, and that theology may not be introduced into scientific investigations. It is said that to assert a directive cause in Nature is “to rob us of all that Darwin has given us at a blow.” Surely such objections are only worthy of the phantasmagoria of the dark ages. Is it true science to erect artificial barriers to research; or to hedge in opinions by refusing to consider facts? No one wants to confuse science with theology; but facts are no less facts in each, if they are common to both. If the fact of God can be proved from Nature, is it common sense to ignore it there, because it is also the foundation fact of theology? If a directive cause may be predicated from the examination of known effects, is it any argument against it to say that it robs us of Darwinism? If it does so, so much the worse for Darwinism; but surely Darwinism ought to be strong enough to take care of itself. Darwin, at all events, was too fair a man to wish his theories to be wrapped up in cotton wool. If Darwinism is to stand it must be ready to answer all the facts. To shut out a fact in order to save a pet theory, is to

take up a position no better and no worse than that of the mediæval judges of Galileo. It is nothing else than clothing modern science in the cast-off garments of the historic *odium theologicum*. If truth is to be reached, the way to it must be blocked by no barriers of preconceived opinions. It is unlawful to erect upon its highway a placard "No road here; this is not a scientific way." The path to truth is the common right of man. The proper method for arriving at scientific knowledge is that of gathering and sorting facts and generalizing from them to conclusions; and this must be done along every line of research in order to obtain a full result, in order to get an all-round true conclusion. We may, therefore, not only argue scientifically from Nature to the fact of God; but, if by any means whatever we have obtained the fact of God, we may use that fact to elucidate and explain the meaning of the fact and history of Nature. Examine this striking *coup d'œil* of science given by a leading biologist.* "The whole order of nature, including living and lifeless matter—man, animal, and gas—is a network of mechanism, the main features and many details of which have been made more or less obvious to the wondering intelligence of mankind by the labour and ingenuity of scientific investigators. But no sane man has ever pretended, since science became a definite body of doctrine, that we know or ever can hope to know or conceive of the possibility of knowing, whence this mechanism has come, why it is there, whither it is going, and what there may or may not be beyond and beside it which our senses are incapable of appreciating. These things are not 'explained' by science, and never can be."

Here is the "mechanism" with the voice of science within it, and the silence of science around it; and that voice re-echoes through its sphere; "it is a mechanism—a network of effect—there must therefore be a cause for all." Science cannot tell us "why it is there," but it does tell us, as we have already seen, who caused it to be there. The ordinary methods of scientific enquiry do not exclude the examination of nature in the light of God. They do not render its importance less. They do not militate against this being the only ultimate way, by which the origin and course of Nature shall at last be fully comprehended and rightly understood. We can learn much about the production of articles of pottery by scientifically examining their character and

* Professor Ray Lankester in *Times*, May, 1903.

analysing their constituents, but the authoritative way to understand their making is to see the potter at his work.

8. Its effect on scientific phrases.

Before proceeding further, let us observe what new light is shed by this conception of God upon those three terms which we have found sometimes to be used with a kind of scientific idolatry to the confusion of thought.

First the term "Nature" itself can no longer be used as an undefined potency or controlling principle, from which to legislate on the conduct of discovery. It can no longer be regarded as a kind of talisman, by which to explain anything which cannot otherwise be easily explained. Nature now becomes a synonym for the workmanship of God; it is an equivalent phrase to the "mechanism" of God. To say that "Nature does or permits or requires a thing," is simply to say that "God does or permits or requires a thing in the realm of nature." We may use the old phraseology still; but we must use it with this meaning alone.

Secondly, the term "evolution" must cease to assume any idea of intrinsic power or self-originating energy. It cannot be too emphatically remarked that it is the reading into the theory of Evolution that idea, which is really extraneous to it, which has led to much of the warmth with which it has been debated, much of the intolerance with which it has been asserted or denied. Scientific thought has forgotten, that if it would bar theology from its purview it must not itself intrude on the sphere of theology; if it limits itself to the consideration of secondary causes, it thereby puts not only theology but itself out of court for scientific deductions regarding the origin of Nature. The moment it makes any implication whatever, regarding the *a priori* meaning of evolution, it knocks down its own artificially erected limits, and opens the field not only to its own, but to all other valid evidence on the prime foundation of the edifice of the Universe. The impression has been formed that the explanation of the change of species by slight variations, by natural selection, by the struggle for existence, by the operation of environment, by internal development, somehow reduces or removes the possibility of the action or control of the First cause. The bringing into prominence of a number of minutely working secondary causes has appeared to leave no room for the Will or Working of the Creator. But the flaw in this reasoning is after all remarkably clear. However much the secondary causes producing any particular effect be

minimized and multiplied, the sum of the force of causation required to produce that effect, remains the same. No particle of that force can be originated by the interaction of the secondary causes ; it must originate altogether from the First Cause ; and, therefore, if (as we have seen) the First Cause of all Nature be God, evolution, assuming it as a fact, however potent, and however extensive, cannot in the slightest degree touch either the power or the will of God. Evolution now can only mean the method (or a method) by which the Creator has chosen and chooses to work.

Thirdly, the term "*laws of nature*" can no longer be supposed to mean independent principles governing the Universe. Their aspect natureward is not changed ; but their aspect Godward is explained. They are laws of God, not laws on God. They are laws upon nature from God. He is their law-giver, their supreme controller ; and the reason of their existence is His changeless will, and that alone.

Thus the conception of God, which we have obtained from Scripture, must be, if we have rightly understood it, paramount over nature, evolution, and natural laws.

9. The kind of creation to be expected from such a God.

We may now proceed to inquire, what, taking the conception of God given to us by Holy Scripture, should we expect the character of His work to be ? *And be it clearly understood that this inquiry has nothing to do with the examination of actual natural facts.* We are not at present infringing upon scientific research, but arguing entirely from the scriptural notion of God. This no naturalist can dispute our right to do, for we are moving definitely outside his domain. We have here to consider, not what God's actual works were, but what characteristics in most general outline work, if done by Him, might be expected to present. If God be such as He is represented to us in Scripture, what would probably be the main features of a creation produced by Him ?

(1) As the Lord our God is *One God*, His creation would be expected to show a fundamental consistency in all its parts. The action of unity would underlie the whole. However varied, however elaborate might be its results, the impress of one mind would appear right through. Every detail, however individualized in itself, would be capable of being traced back, if traceable at all, to a common origin. Consistency in the work would be the sequel of the oneness of the Worker.

Now it is true that we have already argued from the consistency seen in actual Nature to the unity of its Creator; but our present thesis is quite independent of that. We are not now dealing with actual nature. We start from the Unity of God, definitely revealed to us in Scripture, alone and apart from anything else; and, therefore, from that we may argue *de novo* to the converse of our former proposition, and from the Unity of the Creator, as declared by revelation alone, premise that consistency must be expected to appear all through in His creation.

(2) As God is *untiring*, His creation would be expected to be instinct with ceaseless motion. Movement would be everywhere. Wave after wave of divine impulse would well up over the ocean-face of nature, commingling, dividing, expanding, divaricating, conveying motion to its tiniest particles, surging up into exuberant spray, stirring its molecules, moving its mountains, effecting one universal state of movement, latent, slow, or fast, in all created things. Its very rest would be the rest of unexhausted activity.

(3) As God is *eternal*, His creation would be expected to be aeonian—age-long. Time, that by our measure seems vast, is of no account in the measure of the Eternal. Whether the age of the earth were, as supposed of old, 6,000 years, or, as supposed now, hundreds of millions of years, it would be equally an episode in the vastness of eternity. And it is only to be supposed that the likelihood of length of work by the Eternal would be vast; and that, as the earth is small compared with the stars, so the age of the earth, whatever it be, would be small compared with the age of the stars. From the point of view of eternity, time is of no account whatever in creation.

(4) As God is *infinite*, His creation would be expected to be vast in extent. As of time, so of space the work of the limitlessly Great may be expected to be immeasurably great. As we attempt to image the distance of the farthest star, we discover that its magnitude is below the scope of the measure of the infinite. The Infinity of the Creator suggests the presumption of magnitude in His creation—magnitude, perhaps, as yet unimagined by man.

(5) As God is *omnipotent*, His creation would be expected to be majestic. The forces brought into action may be stupendously enormous; the results produced may be unutterably grand. The voice of power thrilling through the universe must find an answer most magnifical.

(6) As God is *omniscient*, His creation would be expected

to be perfect in order and arrangement ;—no part overlooked—no part neglected—no part unguarded by His active knowledge. There would remain no room for accident or chance ; and the whole structure fitly framed together would grow up into a cosmic master-piece.

(7) As God is *omnipresent*, His creation would be expected to be elaborate in detail. The impress of His power would be felt at every point, the mark of His presence would rest on every particular. Nowhere would there be failure through any lack of strength ; nowhere would there be flaw from the absence of His hand.

(8) As God is *unsearchable*, His creation would be expected to be recondite beyond our bounds of knowledge ; the roots of it would strike down beyond the limits of our ken ; the explanations of it would go deeper than human intellect could fathom ; the foundation of every science of it would rest on postulates and axioms to be accepted but not understood.

(9) As God is *unapproachable*,* His creation would be expected to be full of mystery. The lines it took would ever and anon be shrouded in the clouds that veil His presence ; the ways it followed would lose themselves in the darkness that is around His Being ; the “why” and the “how” of it would ever tend to vanish in dazzling heights of wonder beyond the comprehension of any finite beings.

(10) As God *knows the end from the beginning*, His creation would be expected to proceed on a definite plan to definite ends. There would be in it nothing of chance in its progress, nothing of failure in its design. Each portion, as it went on, would have its reason in its arrangement, which might indeed seem lost for a time, but which would in due season come out to take its proper place in producing the ends for which it had been originally ordained.

(11) As God is *immutable*, His creation would be expected to proceed upon a plan, which was not only definite but undeviating. There would be no deflection in its aim ; no variation in its purpose. Its course would not change at haphazard, but would only so alter as to form progressive steps in the development of its primitive unalterable plan.

(12) As God is *patient*, that plan would be expected to be worked out slowly, unhurriedly ; built up in calm sequence

* This word is substituted for “incomprehensible” according to the suggestion of Dr. Wallace, p. 42. It more clearly expresses the meaning of 1 Tim. vi, 16.

stage upon stage, each given full time for its proper development, each duly prepared for the sequence of its successor. Nothing would be hastened ; nothing would be left incomplete ; and nothing would be delayed beyond its proper time.

(13) As God is *invisible*, His creation would be expected to be unseen in its inception, and only revealed in its results. His mechanism would have hidden origins, which would come into view only as reflections of its progress towards maturity. The more distant causes producing each effect would be invisible or dimly seen ; and to human eyes the results would appear to grow up of themselves, simply because the Hand that was producing them was hid.

(14) As God is *all-wise*, His creation would be expected to display His wisdom at every point. The best course would be adopted to attain the destined end. Adaptations would be found most suitable for all requirements. Devices would be seen most fitted for all emergencies. Arrangements would be continually met with which would prove, when rightly discerned, to be exactly the best arrangements to meet the circumstances under which they occurred.

(15) As God is *righteous*, His creation would be expected to exhibit moral governance. Direction towards right, advance toward perfection would pervade its course. Its laws would be sternly against evil ; its retribution for wrong severe ; its rewards for right effective. Its controlling forces would ever make for good ; and that good, as it developed, would be found to be not the immediate material advantage, but ultimate moral good of the loftiest kind.

(16) As God is *good*, His creation would be expected to be full of the results of goodness. It would display beneficence. It would produce benefits. It would be the shedding forth of goodness throughout the fulness of its course, and the perfecting of goodness in its end.

(17) As God is *bountiful*, His creation would be expected to be rich in all its phases. There would be no niggardliness in its execution ; no straining to make two ends meet ; but a wealth of resource and a wealth of production, a superabundance of supply for every possible demand.

(18) As God is *glorious*, His creation would be expected to be beautiful. The expressions of His glory would appear in His productions. Beauty would permeate and overlay them all. That beauty would be displayed in infinitely various ways. That beauty would have innumerable ends and uses. But it would exist for itself and not for its utility. It would be the

expression of a consequence and not an aim. Its presence would need no explanation except the nature of its Maker. Its supreme object, displayed on every hand, would be its testimony to the creative glory of God.

(19) As God is *loving*, as God Himself is *love*, His creation would be expected to be replete with fruits of love. It would be joyous, exuberant with happiness, sparkling with joy. It would be tender, meeting the needs of all with gentle effluence. It would be, in its fulfilment, the impression of the smile of God upon the universe, the transformation of chaos into glory by the irradiance of love, the filling of the formless void with the splendour of the love of God.

(20) As God is the *living God*, His creation would be expected to be everywhere controlled and energized by the impulse of His Life. He would not start it into action and then leave it alone to work out from within itself its successive results ; but His care, His direction, His active control and sustenance would be ceaselessly felt throughout. His vitality would maintain it, His will would rule it. The pauseless power of His endless life would cause it to progress to its full and perfect consummation.

(21) As God is the *life-giving God*, His creation would be expected to be replete with life. Whatever be the secret of life, it could never be supposed, that He, the fountain of life, would be satisfied with a lifeless creation. It could only be expected that He would make it instinct with life ; and further that He would not merely use His life-giving power once for all, but would be continually bringing out into it a fuller and yet fuller effluence of life. It might well be imagined, too, that it would be made rich, not only in abundance of life, but in abundance of forms and phases of life ; and that as it advanced to completion those forms and phases of life would be higher and nobler. But it may be noted that from this premise no conclusion could be drawn as to what method He would most probably employ in the production of life. The question whether He would be more likely to work by direct creation, or by divine action upon existing life which He had already created, or by both of these methods, is not here affected, and must be judged by other considerations. Divine creation is doubtless the antipodes of spontaneous generation ; but, granted the acts of a life-giving God, the method employed in these acts becomes a matter of detail.

(22) As God is a *Spirit*, it would be not unnatural to expect that His creation would culminate with the type or kind of

life most congruous with, and akin to, His own. If therefore we found life advancing throughout creation, until it was crowned by life that was spiritual in character, and if further that spiritual life could only be accounted for by the presumption of its coming straight from Him, we should feel that the Mind of the Maker was thus most evidently reflected in His work.

(23) And lastly, as we have learnt on the highest authority that God not only produces His creation as a whole, but *knows and numbers its minutest parts*—as instances of this are expressly told us by divinest revelation—it would be expected that the perfection of His creation would go down to its extremest details, go down to the minutest textures that the microscope could display and to the molecules and electrons that can be only observed by means more delicate than sight, go down beyond the utmost power of our ken or the acutest perception of our minds. It would be expected that every atom of it would display the same order, beauty, and perfection, that is displayed in its mass; and that throughout it the inconceivably little would as definitely bear the impress of its wondrous Maker's hand, as does the majestically great.

Here we might stop. The conception of God, given to us in Scripture, would lead us to expect an ideal Creation. It pourtrays to us a picture strangely and minutely resembling the actual universe of nature, but yet as far above it as heaven is from earth. Its vision is the poetry of Nature's prose. The scene resulting is as sound to its conception as a scientific deduction is to its data; and yet we must confess that science and even common knowledge show many dark lines in the spectrum of actual nature, which are utterly unseen in this picture it has drawn.

10. *Modification of it required by the Biblical conception of Evil.*

But Scripture has other facts to present to us, besides the knowledge of God. It reveals to us the existence of evil. The Origin of evil is confessedly mysterious; it is a thing explained neither by Scripture nor by nature. Of the results of its existence Science has much to tell. It has abundance to say about the struggle for existence, and degradation and suffering; but when called to find their reason it stops dead. It admits the facts, though it can offer no valid explanation of their cause. It cannot, then, refuse any confirmation of its facts that may be found elsewhere. Nor can it object, if from that other source we are carried a step further back in the explanation of those facts than it can go itself. Such an explanation is learned from

Scripture in its assertion of the fact of a Power of evil. In Scripture we are introduced to it, not as originating, but as already existing. We learn, indeed, how it first affected man in his moral capacity ; we learn, too, how that moral fall affected his physical condition. We have in set terms the description of how it wrecked the noblest work of God. But doubtless the fall of man was not the first triumph that his tempter had achieved. It may have been that the traces of his trail might be found marring the works of God for many vast ages before. It may have been that it effected pain and suffering and death in the prior stages of creation long before it won its final triumph in the fall of man. God, when He saw His creations, said not that they were perfect, but that they were good. The former of them may have been liable to the assaults of evil, just as was the last. How evil came ; why it came ; when it came ; we know not. There may have been a divine necessity for it among the incomprehensible things of God. But this much we learn—that evil must be an episode in eternity ; thus much we know,—that God brings out of evil greater good ; and thus, from what is taught us in the Bible, it is to be expected that, in a nature that is a creation of the Bible's God, the evil, where it exists, shall always become subservient to the good. Yet that its origin is unmentioned when first it came in contact with mankind, is almost proof that it existed from of old ; and thus, from that, dark lines would be expected in the spectrum of the rising world.

11. The conception thus formed agrees with actual Nature. The limits of its use in its elucidation.

If then, very feebly no doubt and faultily, we have formed at all a true conception of what a creation, formed by such a God as is revealed to us in the Bible, but yet infected by some adverse influence, might be expected to be ; and if now, in turn we examine the existing world as we see it to be in fact, both in its more familiar aspects, and also in those deeper views which have been displayed to us by modern science ; we find that the pictures produced by each upon our minds are to all purposes identical. These two views have been obtained in totally independent ways ; the one is wholly based upon deduction from the Bible's revelation of God, together with its indication of the existence of evil ; the other is entirely formed from the examination of actual facts, except that any considerations from the fact of God have been excluded ; and yet by these two absolutely diverse processes we have found ourselves

reaching results which are distinctly in co-ordinate agreement. The conception of nature, derived from the Biblical conception of God, corresponds in broad outline to a most remarkable degree with the facts of actual nature as far as we are capable of discerning them. Hence we may be justified in using this conception of God in working out the meaning and the interrelationship of those facts of nature. We may not, of course, use it for the accumulation of new facts ; we must rigidly exclude it from our scientific investigations ; but for discerning the ultimate meaning of those facts, the goal of those investigations, it assumes the first importance. Certainly we cannot expect to arrive at any scientifically true explanation of them if we neglect or ignore so great a factor in the problem. That is, the knowledge of God is the key to the right understanding of the science of nature. If we would see nature in its right perspective, if we would view it from the point where all its lines come straight, where cause and effect are in their proper places, where there is no distortion from position, no confusion from a cross-wise view, we must take our stand-point on our knowledge of God, and view it, as far as may be, as it is viewed by Him.

12. *Evolution as a Method of Creation.*

Let us in this light attempt briefly to examine the question of evolution, regarded now as a method of creation. God's presence is all-extensive and perpetual. He is not as one who makes a thing and goes away. In all the course of nature, and in every part of nature, He is a present active God. If divine immanence* means no more than this it is a truism ; if it implies anything different from this it is a misnomer. The existence of nature in its every atom momentarily depends all through upon the present life of God. But, on the other hand, creation is the work, not the growth, of God. He is unchanged, unchangeable, by the progress of nature. He is its independent First Cause. He originated it all. By His Will, and by that alone, it came. He is the final antecedent source from which the entire cycle of nature, material and otherwise, had its origin. He is its continual governor. Its laws are by His ordaining and are completely under His control. He is before all things. He sustains all things. In Him all things consist. How then would "Evolution" fit in as the method—the only method—by which He worked ? It is now commonly

* "God's immanence in Nature" seems to be a statement inverted from that of the profound truth of "Nature's immanence in God" (Col. i, 17).

suggested that the old notion of separate creations is impossible ; that it is scientifically absurd to conceive new species coming directly into existence as fresh starting-points ; that the only scientific explanation of the vastly various kinds of existing life is that life first came into the world as protoplasm, and that thence it developed from within itself until the present order of existing species was achieved. As we have already seen, the old notion that evolution somehow did this by its own potency is absurd. It cannot have any independent power of its own—it can only be a means or order of working adopted by the pleasure of God. Now, undoubtedly, God does work from within. Every created life is a wonderful piece of machinery built up by God from within ;—or rather, to be more accurate, from within and from without together ; for no living being exists and grows from within alone ; things external to it are necessary for its life and growth ; and these external things must have been provided for it by a Power without itself. And though God does work from within, the source of His work cannot be described as *intus ab intra* ; it must be *intus ab extra* ; for the Creator “was,” before any created thing became. The first thing created could not have come by evolution. There is, therefore, no *a priori* necessity that evolution should be the only method of creation. In the elaboration of non-living matter, in the progress of a world, the process must be that of building up, by whatever term it be described. That which has only mechanical or chemical power can only produce mechanical or chemical results. In the mental sphere it is clear that intuitions from within are originated or fed from perceptions from without. In social matters advance is largely caused by experience ; and the accumulation of experience has no kin to the evolving of ideas. Something, then, must be added to evolution to obtain a complete description of method.

But as regards living things, it may be well to ask to what the claim of evolution amounts ? All intra-specific life is a genealogy. It is admitted, that, within a species, succession of life comes only by descent. No one doubts that each species has an unbroken sequence of ancestry from its beginning to its end, in spite of any variation within itself. The claim of extreme evolution is that all these separate genealogies are themselves genealogically connected ; that, in spite of their present utterly diverse aspects, they all form a single long genealogy, continuous by descent from the very first origin of created life. From our present point of view it may be freely acknowledged that this is within the bounds of possibility. There is nothing *a priori*

to render it impossible that the Creator may, if he choose, have ordained to work by this method, and by this alone. Evolution thus becomes a subsidiary theory of method, which requires to be proved by detailed evidence. It cannot be established by assumption ; and at present its direct proof is confessedly not complete. No doubt it has claimed a very general acceptance at the present time among scientific authorities. But this is the acceptance of a presumption based on a vast network of facts united by assumptions, not of a consecutive proof definite beyond controversy. There is still much to be said about it on both sides. There are many and great difficulties to it, some of which have been generally ignored, some perhaps hardly as yet generally realized. Moreover, its supporters have been obliged to introduce extensive modifications into its aspect. While they have retained their conclusion, their explanations of its causes have varied, are varying, and are subjects of dispute. Certainly the great hypothesis has been forced materially to change its form ; and it has responded with Protean facility. Terms have been imported into it, which would have been regarded as fundamentally antagonistic to it in Darwin's time. Rapid, almost sudden change, has, for instance, been invoked to replace imperceptible variation. It does not come within our present subject to examine any of the facts upon which it is based, or the difficulties and contradictions which appear to underlie it. It is enough to remark, that, in spite of a vast accumulation of apparently supporting evidence, it still rests very largely upon inference and assumption ; and that many more facts would be required, and many of those very hard to get, before it could be held, at least in its extreme phase, to be infallibly established.

But at present our question is this :—how does Evolution stand, when viewed from the light of the scriptural conception of God ? Does it seem an adequate explanation of the probable methods of His working ? As we have tried to realize what kind of creation might be expected to become from such a Creator, can we go a step further and conclude from our idea of Him, that evolution looks as if it was the method—the only method—He employed in its production ? We confess that to us it seems, in this light, altogether too narrow an hypothesis, too poor an explanation ! He, the all-wise, the all-providing, worked to form the worlds ; and, in this world, to form existing nature. Abounding signs of unison in nature point to His Unity ; but do they prove a unity in front of Him ? Is it probable that He, to whom all methods were possible, should

have restricted Himself to this one method of producing all the phenomena we see? Is it probable that so great, so wise, a Life-Giver should have followed this somewhat roundabout plan of causing every kind of life He gave to earth to pass through the lowest phase of life imaginable? The earth has a handmaid, the moon, which collects the sunlight and reflects it on our globe. But because we know this, should we be justified in arguing that all the sunlight ought therefore to be collected by the moon, before it can reach the earth? Is it not rational for the sun to send us its light (as it does) in other ways as well? Does the moon leave no room for direct radiance? So, assuming for the sake of argument that evolution is one way by which God chose to work, does it therefore exclude all other ways? Might not direct beams of life have come to earth from God throughout the ages? Is it scientific to limit without proof the methods of the Infinite to one alone, and that a way whose aptness for all purposes is liable to doubt? We speak only of probability. His way may have been always so. But, certainly, it is not easy to imagine, that in introducing new elements of creation into the world, in building up new stages of advance throughout the ages, He should have caused them all to come by that single mundane way of evolution. It is not so easy to imagine that in making all the stars He should have caused the one primeval substance, separated to each, to evolve, independently and separately, into the materials which the spectroscope reveals to us now to exist in all. A wider theory of method than evolution seems capable of supplying seems needed adequately to explain the manifold works of the Creator. A larger theory of life than any that has yet been scientifically formed, seems required to fulfil the correspondences implied by the Biblical conception of God.

13. The Biblical conception of God fulfils all requirements of science.

We may therefore finally assert, that the Scriptural conception of God fulfils, and more than fulfils, all the requirements of modern science in the realm of nature. Discovery has not yet spread out a result which exhausts the powers of that conception. There are no signs that it can ever do so; indeed it may be said that it has become fundamentally impossible that it ever can. For if it is to rebut it, its only possible line of argument must be to show that the discovered facts of nature are as a whole incongruous with our conception of God; and when, as we have seen, the

known congruities between them are so multitudinous and so vast, the possibility of science ever hereafter finding an overmastering incongruity is absolutely *nil*.

IV. THE THIRD LINE OF INQUIRY, *i.e.*, BY WAY OF HISTORY NARRATION.

1. *The Biblical account of creation historically true.*

One other side of the matter remains. We have concluded that the Scriptural conception of God is congruous with, and adequate to account for, the innumerable facts of existing and historic nature. But we not only have the history of creation written by God in the books of nature; we also have accounts of it given to us by inspiration in that very Book which has taught us about God. No doubt the statements about creation in the Bible may be deemed subsidiary to its main purpose, and may be judged in some degree by their own weight without necessarily affecting the authority of the book with regard to its primary object. Some even strangely explain them as only human concomitants of divine revelation, ignoring their organic connection with the most evident messages of God. The question is raised whether these descriptions are true to the known facts of nature, and tally with what has been discovered about it by science, or whether they are to be treated as allegories, myths, or dreams.

Beginning with the latter alternative of this question, we may firstly inquire, whether there is any reason for regarding the account given in the first chapters of Genesis as a vision or dream. This theory has been put forward to meet the supposed difficulty of the shortness of the creative days. It supposes the course of creation to have been revealed to Moses in a series of visions, each of which lasted through a solar day. All that need be said of this theory is:—first, that it seems unnecessary, for the supposed difficulty of the “days” can be far better explained by other interpretations; and, secondly, that it is altogether gratuitous; for there is nothing whatever in Scripture to suggest it. The accounts in Genesis purport to be plain narrative; and the allusions to the work of creation even in the poetical books are clear-cut and precise, as if they alluded to historical facts. The institution of the Sabbath, moreover, most certainly would not have been made to commemorate the stages of a dream.

But the suggestion that it was *an allegory or myth* is far

more serious. It touches not the manner, but the matter of the revelation. It appears to be a veiled assault upon the veracity of the Bible. The acceptance of such an allegation would raise a grave difficulty to its authenticity in its integrity as an inspired book. We fully admit the human element in the preservation of Scripture. We know that our copies have been liable to inaccuracies of transcription, inaccuracies of translation, inaccuracies of interpretation, which may have crept into the Holy text itself. We fully admit the human element in the production of Scripture. We admit that its authors were themselves fallible men and were limited in their own knowledge, while we believe that they wrote all through as they were moved by the Holy Ghost, the controlling Spirit of truth. But if the Bible is anything at all it has more than a human element. Its messages are not to be measured by the minds of its messengers. It was professedly not always given to them to fathom the scope of their own utterances. We are not afraid boldly to assert that all Scripture was given by inspiration of God; and that whatever else inspiration means, it means this, *that the whole Bible, in the state that it came from God, is the word of God, the true word of the true God.* We are quite ready to suppose, if need be, the employment of pre-existing archives and documents. We see no grounds for alleging that the early patriarchs could not themselves have had Scriptures that are gone, nor that old documents could not have been transposed from ancient to more modern language. We know no reason for denying that Paradise and the Flood and Babel were not only actual *experiences, but lingering memories.* But that the first chapters of Genesis, whatever their human source, *were written under the inspiration of God* is as certain as that the Gospels themselves were so given. How different are they from the myths of the Babylonish tablets. These may have caught reflections of early truth, perchance, from some inspired source, from some pristine parts of Scripture, but inspiration is not in them. Can they be compared with the facts of modern science? Beneath that touchstone is not their debased and mythic character at once revealed? Can it be said of them, as it has been said of Genesis, "it would not be easy now, to construct a statement of the development of the world in popular terms so concise and so accurate?" But most of all, the first chapters of Genesis were quoted as authentic records by our Lord, and his view is for us the seal of authority.

2. Its actual, if not apparent, agreement with scientific fact.

We have, then, to accept the earliest chapters of Genesis as definite statements of fact as understandable at the age in which they were written ; and we must, therefore, examine how far they can be interpreted in agreement with the facts of nature. Yet though interesting, it is quite needless that their harmony should be found. Two mathematical results, reached by different processes, may be identical, and yet not be comparable in terms. But any forcing of them into apparent agreement is to be deprecated most strongly ; any confusing of their mutual details is not only unscientific, but misleading. Science must make its own way from its premises to its conclusions. Any attempt to build it up with theses from revelation is fairly certain to result in a congeries of misunderstandings of both, and is likely to produce much the same effect as an equally mixed French and German translation of a Greek author. But yet the fact of their ultimate harmony will rise up behind their respective vistas, as the grand dim shadows of the same eternal hills rise up behind two parallel landscapes. Scripture was certainly never intended to teach science, but yet more science may be contained in it than we know. Its simplest words may reach profounder depths of knowledge, than the most elaborate explorations of philosophers have fathomed. If God indeed inspired the Bible, it most certainly comes from One who knows. It is risky, to say the least, to charge it with ignorance or impute to it inaccuracy. Its accounts may be given in plain unscientific language, suited for the minds of those who knew but the barest surface of nature, and were ignorant of modern philosophy, and still they may be based upon a far more scientific cycle of truth than is ours even yet. A learned father may write to his little child in very simple language ; but the child would be foolish indeed, if it concluded that, because its father's language was simple, therefore he did not know as much as it did itself ; and if, as it grew older, it still judged its father's learning by its first interpretation of its father's old letter, it would only be more foolish still. Even so it may be with the Bible. Its language may be unscientific to our sense, and yet may mean truths above our research. Most remarkable is the fact that it has fitted in, age after age, with the increasing knowledge of mankind ; and that the most recent science does not yet seem sufficient fully to measure the meaning of its description of creation.

V. CONCLUSION.

And what of this great world of Nature now, whose building science has so wonderfully described, and Scripture so graphically in brief set forth ? In spite of all the imperfection, pain, and sin it holds ; in spite of that marring of it by evil, which is equally predicated both by science and the Book ; in spite of its present rest being shown, by both, to be no final rest but a pause before the last great consummation of all things ; as it looks upon its beauty and its joy, its vast variety and its teeming wealth, its wondrous adaptations and its all-pervading order, its marvellous minuteness and its unmeasured grandeur, does not science estimate it exactly as it is estimated in Genesis ? Can human learning adequately describe it, except it borrow the actual words of God, and pronounce it " VERY GOOD " ?

DISCUSSION.

The SECRETARY (Professor E. HULL).—Perhaps I may be allowed at this moment to personally thank the author of this eloquent and able paper, which, when I read it in manuscript, struck me as containing much original matter and thought, particularly in the description of the attributes of God and their resemblance to those of nature, or I would rather say as reflected in nature. That struck me as a part of the paper which, if there were none others in it, would of itself demand the thanks of this Institute. (Applause.)

I therefore, personally, as well as on the part of the Institute itself, thank Mr. Whidborne for giving it to us, because I am aware that the paper was not originally written for the Institute ; but, at my suggestion, when he put it into my hands, I saw it was a paper that ought to be brought before the Institute if the author were good enough to allow it to be read here.

There is one point that I wish to refer to. I would call attention to a work by a very distinguished naturalist, Dr. Alfred Wallace, F.R.S., whose name we are all familiar with. He has brought out a work in this present year under the title of *Man's Place in the Universe*, in which he opposes the views of writers, some of whom were men of great eminence, such as Herschel, Chalmers, and Sir David Brewster, all of whom maintained that there are other

inhabited worlds in the solar system beyond our own. Brewster's work, entitled *More Worlds than One*, received, as you are aware, great attention and support when published, but Dr. Wallace shows on purely physical grounds that those views are untenable, and with great elaboration contends that this world alone amongst others of the universe has been the home of such a being as man, and has been, therefore, the object of the Creator's special care and governance. Surely this is in accordance with scriptural doctrine. Nowhere in the Bible are there any references to God's dealings with inhabitants of those celestial bodies as He has dealt with those of this world of ours in the work of creation, supervision, and redemption. Of this world alone it is written, "God so loved the world that He gave His only begotten Son," and again, "The Heaven, even the Heavens, are the Lord's, but the earth hath He given to the children of men."

This subject, I was going to say, hardly bears on that of the paper, but I now think perhaps, to some extent it does, and I thought it would be interesting to you to know the views of such a distinguished naturalist and philosopher as Dr. Alfred Wallace on a question of this kind.

Mr. MARTIN ROUSE.—Three times at least the quotation given by the Secretary occurs in such a remarkable way as to suggest to the mind that the speaker was alluding to the universe containing many such worlds as ours. Twice, at least, it is mentioned in connection with Deuteronomy, Micah, and Nehemiah, "Thou hast made the Heavens and the Heaven of Heavens." Solomon appears, at the dedication of the temple, to have expressed it, "Behold, even the Heaven of Heavens cannot contain Thee," and therefore the words added, "and the host of them," after the expression "the Heaven of Heavens," imply, to my mind, that the vast universe, with its different celestial bodies, was in the mind of the speaker, who, however, might not have known the full import of his words (though God afterwards gave him very great wisdom, and probably he did), and that this was the only world surrounded by its Heaven, while the Heaven of Heavens contained a yet greater host.

Rev. F. A. WALKER, D.D.—May I be allowed, though it is difficult to say anything in criticism of such an admirable paper, to draw attention to a few points of detail?

The author, speaking of the attributes of God, says, "as God is

incomprehensible." I would not venture to impugn the meaning of that expression, but if an equivalent could be found for it in meaning I think it might be desirable, considering that in the Athanasian Creed "incomprehensible" is used as meaning illimitable, "whom the Heaven of Heavens cannot contain," beyond all creation. If some equivalent could be found for that I think it might be as well, as it is used in theology in another sense.

Again he says, "As God is glorious," I note that Mr. Whidborne speaks of beauty existing for itself and not for its utility. I think that is amply borne out by Dr. Wallace in his "Tropical Forest," where no human being had been before to study science. He speaks of the floral world and birds of paradise generating, flourishing and disappearing as unseen objects by man for generations, with no one to enjoy their beauty: showing that these creatures exist for themselves and not for their utility. Some of the most glorious objects of creation have only been seen the last thirty years by man. Some of the most splendid birds of the most varied colours and most gorgeous plumage are amongst these.

Again he says, "As God is righteous." It struck me as I heard that read, that the sting in objects of creation is a very recent thing, and the bite on the contrary (dentition for mastication and offence—the organ of the teeth) is common to all objects, from man downwards. Of course we see adaptations suitable for all requirements in the creation around us in the present day; how moths of the same species are varied in colour according to the country they live in, and the colour and texture of the geological regions in which they are found. The same kinds are very varied in the west of Scotland and the middle of Iceland, because of the different-coloured rocks, and for self-protection their tints will harmonize with the colours of those stones.

WALTER A. KIDD, M.D.—There are many general points I should like to refer to in connection with the paper. It is a most valuable paper, and most courageously and properly maintains the right of religion to have its voice heard on the subject of the Genesis of Nature, which is not often maintained with sufficient courage in discussion. Mr. Whidborne, who is himself a geologist, has as much right to be considered an expert in this matter as other scientists have on their side, for these questions run on converging lines of evidence, and if Mr. Whidborne and his like are

experts on the side of religion and they know what the Bible, broadly interpreted, has to say, we should be ready to listen to that side of the subject, and I think this question of the converging lines of religion and science is a very important one.

Dr. SCHOFIELD.—I think the argument of this paper, in its general terms, as universally accepted, that "In the beginning God created the heaven and the earth," has long passed from a religious statement into a scientific fact, accepted, in various terms, one may say, by all thoughtful scientists, and therefore I think that the larger part of this paper, beautifully thought out as it is, contains matter generally accepted. Only Mr. Whidborne has shown us, in the way he puts it before us, the steps by which it can be argued out.

There are only three possible propositions—either the world must have created itself, or it must be eternal, or some one must have created it. The first two are generally discredited, and the third leads us to the First Cause, and is accepted by all Christians. When you read Mr. Whidborne's postulates as to what nature should be like in his twenty-two or twenty-three propositions, of course we are quite aware that nature is not like the picture, so the author gives his reasons for the discrepancy in his section headed "Modification of it required by the Bible conception of evil," but then you see scientists who do not accept the Bible do not accept that. Mr. Whidborne, myself, and I suppose all of us, believe that the First Cause was a God of love and light. The conception of evil is of course a mystery, and the account given of it in the Bible is not accepted by all scientists. They regard it as a real stumbling block to scientific theology, and I think it must continue to be so to those who do not accept the Bible. I do not think it is possible to reach God without the Bible—you cannot without it discover the first cause of life and the first cause of evil. Mr. Whidborne accounts for this according to us, who *are* Christians by the Biblical conception of evil.

Then I would just like to say that the paper is of particular value, I think, in presenting evolution definitely as a method and not as a force. Mr. Whidborne seems to find a great difficulty when he says, "It is not easy to imagine that in introducing new elements of creation into the world, in building up new stages of advance throughout the ages, He should have caused them all to come

by that single mundane way of evolution." To some of us it is quite easy to imagine that. We can imagine the Divine hand giving the ovum power to evolve to a greater extent its successive stages and to reproduce higher animate forms.

In his definition of inspiration I would ask Mr. Whidborne if he would not like to alter that slightly. I refer to the passage, "Whatever else inspiration means, it means this—that the whole Bible, in so far as it came from God, is the word of God." But supposing it did not come from God. Well, that is the whole point. Inspiration means the whole Bible is the true word of God. What Mr. Whidborne meant to exclude is the human element in it, no doubt, but it rather spoils the weight of that beautiful phrase.

Then the point from which Mr. Whidborne regards creation is a beautifully poetic view; but I do not think it is necessary that everything I make should be like myself. It is wonderfully beautiful to say that the way in which nature may be described is as "the vesture of the living God" in the way it shows itself, but in many ways it does not. Some of the postulates therefore strike me as being a little forced, but on the whole I thank him for his most valuable paper.

Professor ORCHARD.—I wish to express my obligation to the author for this valuable paper, marked, as it is, not only by logical acumen, but by philosophical insight.

I may have misunderstood the meaning of the author, but in one paragraph there appears an assertion that "the immaterial part of nature itself is dependent on the material part, and has, as far as we can see, no power or vitality, which is not founded on the material part." If we look at the top of the preceding page we see, "certainly the matter of the brain did not come into existence by thinking; as certainly thought cannot owe its origin to the mere mechanical structure of the brain." It appears to me there is a little inconsistency in those two statements, and that possibly the author might slightly modify the expression.

I think we shall all agree with the author in his main thesis, which I understand to be that nature illustrates the Bible conception of God. Surely it is fair to say that a workman is known by his work. Anyone making an elaborate piece of machinery will probably show whether he is wise or unwise—whether he is skilled or the reverse—and so undoubtedly a complicated and elaborate

piece of work does bear witness to the attributes and qualities of the worker, and doubtless that is so in nature. "The invisible things of God are clearly seen by the things which are made." That His eternal power—His Godhead, His goodness and providence are all revealed by nature, we must certainly agree. I must concur with the author that anyone unacquainted with nature might have anticipated from the Bible that nature would have the main features it presents to us. It seems to me that is a powerful argument which might be added to the list here for the inspiration of the Bible as being the Word of God. You cannot explain the facts of nature except from the Bible. That, surely, is an argument for the inspiration of the Bible.

I most thoroughly endorse the author's protest against those scientists who endeavour to make out that the Bible and science are opposed to one another. The scientist who really studies the Bible and then says so, is guilty of casting a slur and a slight on science. True science is ever in agreement with the word of God, as the author pointed out. Science investigates facts, but if you want the meaning of the facts, the origin of the facts, the testimony of the facts, you find in the Bible only the explanation.

DAVID HOWARD, D.L., F.C.S.—I think nothing shows the admirable nature of the paper better than the way in which it has borne cutting down in reading without losing the thread of the argument. At the same time I hope that those who heard it somewhat curtailed will not fail to read it at length, for although the fortress was so well defended some of the earthworks were left out to save time, which are most worthy of careful attention.

In regard to the author's remarks on the misuse of words and consequent confusion of thought, I believe it is one of the most difficult things in thought to escape from one's own words. One uses a word and gets used to it, and then it appears to get sacred not only in theology but in science, and argument is carried on about a word, and the meaning is entirely obscured by the fact that the word is used in an entirely different sense. To take evolution, for instance, it is at once a demi-god and a bogey. Some people use it as an expression for what the words cannot possibly include—the prime cause of all things—and others, in their dread of such misapplication, shut their eyes to the evident truths to which the word can be properly applied. I venture to think that this applies

strongly to the word "Darwinism," which is often made to include a great deal that Darwin never said or believed. He was far too cautious for that.

At the end of the paper I thank the author most heartily for his mode of putting the right way of reading the 1st chapter of Genesis. You may use the most accurate and scientific language of 100 years ago, and when you read it in the light of present thought it is inconceivably less accurate than the language of the Bible. At best you cannot escape from the finality of human thought and human words, and if we read not the thoughts, but the interpretations we are pleased to put upon the words, we must remember they are translated from the Hebrew, and we are not using the language from which they are translated.

The CHAIRMAN then called on the Dean of Peterborough.

The Very Rev. the DEAN OF PETERBOROUGH.—The one point that interested me—shall I say most of all?—and which I want to pursue first, as far as possible, is the possibility of there having been a marring of God's creation before the fall. I do not know where my friend first got that idea. Was it originally your own, or is it anything you have derived from another work?

Rev. G. F. WHIDBORNE.—I got it from our Lord's words, "The devil was a murderer from the beginning."

The DEAN OF PETERBOROUGH.—It is your own thought then?

Rev. G. F. WHIDBORNE.—Yes.

The DEAN OF PETERBOROUGH.—If that can be proved and brought home to us all, it will be to me a very great relief, and I hope with your help to pursue it.

I should not venture to speak further in this audience, coming as I have done, unprepared to make observations on the paper; but I rejoice to think that one whom I have known now for thirty years is so competent to write as he has on this matter.

Rev. G. F. WHIDBORNE.—Mr. Chairman and gentlemen, I must thank you most heartily for the very kind way in which you have received my paper.

I have to thank Dr. Walker for his criticism.

I think the only point I need refer to at this late hour is what the Dean of Peterborough said with regard to the existence of evil before the fall. I wrote that paragraph at first without, I may say, referring to any particular opinion. It seemed to come out in

writing; and then some little time afterwards, I was very much struck with these words of our Lord, "He was a murderer from the beginning." The Greek word may be "man-slayer," but it seemed to me as though, very probably, it has a deeper meaning than that which we should naturally place on it, and which, no doubt, was its special meaning. But the words that struck me there were "from the beginning." It seemed to me as though our Lord were pointing right away back; though possibly in His time the people could only have a near view. But now, as we have learnt more about the creation of the world and have gone further back in time than they knew then, so we know there was a point further back than was thought of then; and it certainly does seem to explain to us that a great deal of death and suffering occurred before, in a way that was certainly not then explained to us by anybody elsewhere, and which is remarkable as an explanation given us long before any scientific person raised the difficulty—before the science of the nineteenth century was dreamt of.

The CHAIRMAN.—Every member of the Institute must feel grateful to Mr. Whidborne for his paper. I trust it indicates that a change has taken place in the views that many of us held, and that more papers of the same kind will be brought before the Institute.

The Meeting then adjourned.

COMMUNICATIONS.

The following communications have been received.

From Dr. D. BIDDLE, M.R.C.S.—

There is one passage in this interesting paper which seems to me to need revising. The author says, "Certainly the matter of the brain did not come into existence by thinking, as certainly thought cannot owe its origin to the mere mechanical structure of the brain." In a sense this is true, but only to the same extent that the growth of muscle is due, not to exercise, but to some other cause acting correlative. The brain of a person who thinks grows in accordance with his thoughts. Every thought is dependent on the structure of the brain for its conception, and in return produces a definite effect upon that structure. Memory, one of the chief elements of thought, belongs almost (if not quite) exclusively to the brain, of which the

association of ideas is one of the chief functions. It accordingly has its periods of keenness and uncertainty, and decays as age advances. Thus, the brain is not a mere instrument on which the spirit plays; on the contrary, it is almost more true that the brain plays upon the spirit. It will occur to everyone that this is the case when sleep is disturbed by nightmare; and the experience of our waking hours differs only in its character, not in respect of its *modus operandi*.

There is a spiritual side to all thought, for the sentient power (or self) is identical with the human spirit. But apart from the body there is, for man, no thought. Hence the need, as well as the promise, of the resurrection of the body—an article of the Creed of the whole of Christendom, east and west. The human spirit *feels* and *wills*; but what it shall feel, if not what it shall will, is determined by causes external to it, though possibly belonging to its immediate environment—that part of the brain in which the memory is located—alone, as during meditation.

The question here discussed is one quite apart from that of creation or evolution, as the origin of all things, and is capable of solution by a regard for facts within the reach of everybody. Moreover, it is decided for us in the Holy Scriptures, which contain innumerable passages indicating that at death it is not only our powers of locomotion and cunning workmanship, but our very thoughts that perish. Christ, however, has said, “I am the resurrection and the life, he that believeth in Me, though he were dead, yet shall he live.” “I will raise him up at the last day.” It is better to rest our hope on these grand statements than to put any trust in a natural immortality.

From the Rev. J. RATE, M.A.—

We are much obliged to the Rev. G. F. Whidborne for his interesting paper.

He says, “Ask nature, where is the law-giver? Not in me; I obey the laws . . . I am their servant not their master; and yet no law can exist without a law-giver.”

May I make one remark. Much confusion of thought is caused by the different meanings in which the word law is used:—

1. It is used to mean the commands or decrees of a *legislative* person or body, as distinguished from the *executive* person

or body who enforces obedience by sanctions and penalties, e.g., "the law of Moses," "the law of the ten commandments," the "ceremonial law," the "civil law," the "ecclesiastical law," etc.

2. The *order or method of operation of an external or internal force*, e.g., "the law of gravitation," "Kepler's laws," "the law of the spirit of life in Christ Jesus hath made me free from the law of sin and death—I delight in the law of God after the inward man, but I see a law in my members warring against the law of my mind, and bringing me into captivity to the law of sin in my members." (St. Paul.)
3. The manifestation of the attributes of God as revealed in the order and method by which God governs the material world and the world of life and animated existence, e.g., "The *laws of nature*, are the *thoughts of God*" (Hans Christian Oersted, the Danish philosopher, the discoverer of the laws of electro-magnetism).

There are many other meanings which are often designated by the word "law." It is important, therefore, in entering on any description about law or laws, to *define precisely the meaning in which the word "law" is used.*

From Rev. C. GODFREY ASHWIN, M.A.—

Thank you for sending me a copy of Mr. Whidborne's paper.

Though we may assume that most, if not all, the members of the Victoria Institute will agree with the conclusion of the first part, that the *only "supernatural"* is God, and everything in the universe is *as natural* as the birth of a babe, I think there will not be the same unanimity as to the nature of the universe to be expected from consideration of the attributes of the Deity referred to in the paper. Probably they would be nearly as varied as the imaginations of those who endeavoured to deduce the picture, without the object-lesson of the world, as we know it.

Deformity is as conspicuous as beauty; badness, almost as prominent, if not more prominent, than goodness; and if science and scripture agree in attributing this chaos to evil, do either of them distinctly point us to the *fons malorum*?

And if "the Power of Evil"—emphasised by a capital "P"—is intended to point to a "Power" independent of the One and Only

Everlasting God, how is His existence to be reconciled with that belief?

While welcoming any effort to dispel our darkness, I am sorry to say my eyes are too dim to have become any clearer.

I have seen many strong swimmers enjoying and benefiting by a swim in the sea—but have never seen anyone tall enough to bottom it. But, thank God, we are swimming in an ocean of Love.

P.S.—The conclusion, well worked out, that the original force must be efficient to produce the ultimate manifestation, may perhaps help some to recognise the possibility of miracles—one of the great difficulties to scientists in believing in the New Testament.