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JOURNAL OF  
THE TRANSACTIONS  
OF  
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DAVID NUTT, LONG ACRE.

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1900.

## ORDINARY MEETING.\*

CAPTAIN HEATH, R.N., IN THE CHAIR.

The Minutes of the last Meeting were read, and the following election took place :—

ASSOCIATE :—H. Hartshorne, Esq., M.A., M.D., Japan.

The following paper was read :—

*COMMON ERRORS AS TO THE RELATIONS OF SCIENCE AND FAITH.* By GEORGE MACLOSIE, D.Sc., LL.D., Professor of Biology in Princeton University, U.S.A.

IN a memoir of the great investigator, Joseph Henry, it is stated that, whilst he was of a devout spirit, he was not much troubled by physico-theological controversies. He thought it would be strange if, in an advancing world, the theologian and the investigator in their independent paths should not occasionally misunderstand each other. And he held that men should not lower their scientific flag in order to conciliate theology, or lower their Christian flag in order to satisfy scepticism. Like many other thoughtful men, he knew that, as between Christianity and science in their own essentials, there is no quarrel; and that on neither side of the controversy over them is there a monopoly of blamelessness. It is instructive to observe how largely ex-President A. D. White's able sketches of the conflict bear on tenets once accepted by all schools and professions, and how the development of science has involved a reconstruction of men's ideas of jurisprudence and philosophy and therapeutics as well as of physico-theology: and to note that the one general truth evolved by history is that a worthy clergyman even when well read in divinity and in classical literature, is not safer against error in his scientific excursions, than is a brilliant scientist when he turns anti-theologian. This is a

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\* March 1st, 1897.

wholesome truth which ought to commend itself to our hearts. The following notes are also directly suggested by a historical review of our problem, and appeal to those who attempt the conciliation of science and faith.

1. In view of the relative independence of the testimony for religious and scientific doctrines, all that should be expected is a *general harmony*; and to press for excessive conformity is dangerous. In fact no sound method of homologizing the Bible and natural science has been discovered; nor was it ever possible in the formative stages of science to effect their harmony. Thus it comes that all the well-meant efforts in this direction have been necessarily in great measure failures; and any efforts that we may make must be provisional, as they have to do with sacred exegesis and scientific opinion, which are growing, and therefore changing, things. Munro Gibson has enforced this principle by reminding us that men have fought for Milton's ideas as passionately as if *Paradise Lost* had been added to the Canon. The same error is gladly accepted by sceptics, who insist on the Miltonic idea of creation as the only Scriptural idea, and therefore insist on the incompatibility of Scripture with well-established science. To harmonize Scripture and science is good, if the harmony be provable beyond doubt; even a general refutation of charges of their discordance is useful. It should be remembered that there is a large unexplored hinterland between our science and the exegesis of the early chapters of Genesis; and the anti-scientific divine is always sure to join hands with the anti-religious man of science in filling this region with impassable barriers. We must, however, carefully keep our interpretations of Scripture untainted by our scientific ideals, and we must keep our science clear of theological glosses. If Hugh Miller had succeeded in engrafting his *Testimony of the Rocks* upon the narrative in the Book of Genesis, every new departure on either side would have brought a rupture. Some parts of the bright volume on *Natural Law in the Spiritual World* appear to us to err in this respect, often modifying its theology for the sake of completely harmonizing with its science. It would also be wrong, we think, for churches to readjust their deliverances as to the creative week, so as to embody Miller's or any other particular view of the creative days; although it might be proper to eliminate from them any definite interpretation which has been proved to be untenable. The general harmony of the

Mosaic cosmogony with geology is sufficiently clear; but every man who in the present state of our knowledge ventures to develop their harmony in details is sure to fail.

2. Neither reason nor Holy Scripture gives us any warranty for restraining scientific researches or speculations; and any attempt to restrain them proves our ignorance of the laws of investigation, and is a usurpation of the rights of human thought. On looking into the past, we learn that the most important discoveries were reached by men going blind-fold, and often going against the current of popular opinion. Men have used wrong methods, and arrived at valuable results; Columbus was wrong in the notion that westward was an easy route to the East Indies, but it was better to take the wrong route than to remain at home. Scientific inquirers claim the right to go wrong, to use wrong methods, if these appear the best, and not to be challenged as for a moral delinquency; they also believe that religious councils (or even scientific councils) are as unfit to regulate their procedure as they are to instruct army commanders how to handle bodies of soldiery. The investigator may be astray in his views of nature, may be biased in his mode of drawing inferences, may be ignorant of the religious tendency of his opinions. But his erroneous assumptions may be a necessary step in his progress; and we must let him follow out his own plans. Many illustrations bear on this. Sir Isaac Newton made his optical discoveries by the help of an erroneous theory as to the nature of light; and we are almost certainly in the dark or astray as to the nature of gravitation, yet much useful investigation is in progress as to its subject-matter. All scientific investigation is at first groping in darkness; even the student of mathematics must at the beginning of his course deal with *minus* quantities, and with their imaginary square-roots, and must learn to add and to multiply infinities, all which impossibilities prove to be both legitimate and useful.

3. The right to investigate and to speculate carries with it the right to publish the speculations at any stage, and however crude. It is indeed to be remembered that if any man comes to anti-moral or to atheistical conclusions, he ought to hold himself responsible for the views which he actually entertains, however he has come to accept them. But a man who accepts particular views about science (or about history or philosophy) is not to be held responsible for deductions that somebody else can justly or unjustly draw

from his opinions. It rarely happens that one man can see all the bearings of the facts or theories on which his mind is occupied; and a single investigator rarely completes a subject of his research. It is by the publication of his ideas that others are able to confirm or confute him. To prevent unverified publication would have killed much of Sir Isaac Newton's work, as it was nearly two centuries after his time that the necessary rectification arrived. His errors were in many instances suggestive of further researches which led to the true explanation of phenomena.

The constant appeal to verifications is characteristic of scientific theory. What is called the Higher Criticism in Literature is weak in this respect, at least as to its positive side of emendations and distributing fragments to hypothetical authors. Richard Bentley gave an object lesson of his method in his emendation of Milton, an imaginary editor included, which to us non-critical people would seem quite as justifiable as his revision of Horace, or as others' parcelling out Moses and explaining the peculiarities of the Bible by a naturalistic quasi-evolution. Out of several possible theories about the origin of a book, the tests for determining which is the right view are rarely available; and the scientific method is to regard hypotheses as only hypothetical until we can verify them by tangible evidence.

4. The enemies as well as the friends of religion are sometimes inclined to regard every novel scientific doctrine as necessarily atheistical. Some hail the new dogma as a weapon of destruction, others denounce it as perilous; and both parties appeal to each other for confirmation of the opinion that the new dogma and the old faith cannot co-exist. Three-quarters of a century ago most of the English clergy thought that Geology was dangerous to men's religion, and even geologists like Lyell were of the same opinion. Since that time we have come to the conclusion that the geologists were right as to their science, and the humanists were wrong, and that there is nothing specially wicked in the discoveries of the former.

5. A very foolish and sinful practice is that of taking flings at the departments of science that are subjects of popular suspicion. A learned professor recently assailed Geology on the heavy charge that within the last century the geologists have changed their views two hundred times. He might have truthfully said two thousand times: but he ought to have been ashamed to make such a charge, especially in

the remembrance of the treatment meted out towards the geologists by men of his own kind. The fact of many changes redounds to the credit of science, if these changes, though limping and often stumbling, are on the whole progressive. The same objection is constantly reproduced in newspapers, showing obtuseness that will condemn a branch of science because of its manifold advances. Will men condemn Geography because the map of the world has changed so much within the last century? Or will they condemn electricity because of the changes effected in it since Franklin hoisted his kite? A living science is always undergoing change, just as the living body is in a continual flux; by many tentative efforts after light and truth, often with steps backwards, the research goes to new fields. The geologists had hard times between their own unavoidable blundering and the sharp criticism of many who did not sympathize with them and did not comprehend their mission. The blame of opposing them does not belong exclusively to the clergy; professors in universities, eminent physicians, lawyers, men of humanistic and even scientific culture, all looked askance on the young foundling that was seeking admission to the family of the sciences. We cannot understand how any intelligent Christian can now refrain from thanking God, and blessing the memory of the early geologists who fought for and won the liberty of studying in their own way the structure of the earth's crust. A living science, like a living college, and like a mighty nation, must be always changing, seeking something higher, and will regard its early struggles as the most honourable part of its history. On the other hand, a perfect science, no longer changing, is dead, useful perhaps to guide Chinese artisans in its applications, but unworthy of further research. One of the drawbacks of the ancient classics as frequently studied is that they live too much in the past, without opening new lines of research; like aristocratic families that are proud of their record, though now decadent. Even in the classics, men like William Ramsay have opened new lines of research which are reviving the fascination exercised by such studies on our ancestors; and the great attraction of the sciences is that they send their students in search of new fields.

6. We take the opportunity of challenging a common assumption as to the Scripture narrative of the Noachian deluge. It is supposed that whether universal or local it must have been simultaneous. A series of successive

devastating floods over many lands, with much, if not universal, destruction of human life, is what geologists know to have actually occurred. We do not advance this view as the correct exegesis of the record in Scripture, but submit it for verification.

7. The conflict has now shifted from Geology to Biology, and specially to the question of the origin of species, and still more directly to that of the origin of man. The various terms, *Evolution*, *Development*, *Darwinism*, are, according to the *usus loquendi* of the scientific world, synonymous at least when applied to the organic world; all of them just indicating the actual derivation in some way or other of distinct species from common ancestors. The term *Natural Selection* further suggests that the forces causing the production of new species are chiefly external, that in the struggle for existence they represent the influence of the environment. The name of *Neo-Lamarckians* is now applied to those who, believing equally with the selectionists in evolution, regard the forces as chiefly or largely internal, the organism itself when acted on by the environment responding by appropriate changes of its own structure. None of these views involves any assumption either for or against the supreme control of the Divine Being over the process of evolution, and over the environment and the movements of the organism. An evolutionist may, if he choose, say that it is all nature and nothing more; another may say that nature is only a name for God's mode of directing or effecting changes.

Candid thinkers may be led to condemn this theory. An eminent British physicist is astonished at the "coolness of assumption with which mere speculations are spoken of as if they were established truths." His criticism is thus far justified—in that many praise evolution as if it unlocked all the secrets of the organic world, and yet no well-grounded theory of its *rationale* or its limitations has been reached. Neither natural selection nor Neo-Lamarckism goes back to the real origin of variations, a point which is yet unknown; they are rather like interference in athletics, which may secure a clear field for the movements of variations otherwise initiated. So far, established evolution is only empirically true, and ought not to be applied too widely in a deductive way. Nevertheless one may be biased against it by one's mental habit as a physicist, accustomed to mathematical, or at least experimental, evidence. Such evidence is rarely accessible in Biology, as it is inaccessible in sociology and politics and

theology. Yet appropriate evidence, and a great deal of it, favours some kind of evolution; evidence from many widespread and independent sources ever cumulatively growing. The theory opens new lines of research, is continually leading the way to new discoveries, often enables us to prophecy, and is reinforced by fulfilments of its predictions. Thus by the only evidence that can bear on the case the general theory seems fairly established, and ought, we think, to be provisionally accepted.

On many particular points, as the first origin of life and the origin of man, there are special difficulties. The recent lecture of Professor Hubrecht at the Sesquicentennial of Princeton University shows that the genealogy of man cannot be traced through either the apes or the lemurs, and that the nearest known ancestral form is away back in the Eocene formations, and even this one is only possibly ancestral; a result which rather increases the sense of our solitude, and shows that whether miraculously produced or more slowly evolved, there must have been something very special in this case, and that our moral nature cannot be accounted for on any theory of naturalism. But let nobody fancy from this that the evolution of man is disproved; at any time discoveries may be made which will change the whole aspect of the question. For the Christian public we think the best attitude at this time is that taken by the late President J. McCosh, in these terms: "If any one asks me if I believe man's body to have come from a brute, I answer that I know not. I believe in Revelation, I believe in science, but neither has revealed this to me; and I restrain a weak curiosity which would teach me to inquire into what cannot be known. Meanwhile, I am sure, and I assert, that man's soul is of a higher order and of a nobler type."

If any man can prove that evolution is false he will find a ready hearing in scientific circles. But the trend of testimony goes strongly in the opposite direction; and men are rendering a poor service to religion who attempt to get up an issue between it and evolution. Such attempts nearly always show misapprehension as to the meaning of evolution. Here an able writer fancies that it can change a rose into a dandelion (which no evolutionist thinks possible), and argues against evolution because it fails to explain the origin of sex—which it, however, explains so well as to turn this into an argument in its favour. A learned lawyer

writes a book entitled *Creation or Evolution*, entirely unconscious of the additional alternative of "Creation by Evolution." Of course *creation* in this connection refers to the secondary creation of living things out of already existing matter, living or dead. The greatest error of Charles Darwin was the publication of his theory as antagonistic to the Biblical record of Creation, an error that summoned to his side the sceptics, and was a challenge to Christians. A well-known professor of divinity charges against Evolution, and against Biology in general, that it gives no place for mathematics and is therefore devoid of certainty. He does not appear to see that the same objection hits Theology; and if he knew more about Biology he would find that it contains a good deal of applied mathematics, as shown by Macalister on the *Human Skeleton*, and by Matthiessen on the *Dioptrics of the Eye*, as well as by the mechanics of levers and centre of gravitation of the body. Worthy men too often prejudice youth against Christianity by making its defence rest on their misapprehensions; and many arguments offered to shield theology from new scientific theories will, when examined, be found to be the revival of the exploded theories of Cuvier and his followers.

8. We think it wrong to denounce scientific work because of the infidelity of some of its disciples. Science is not God's way of saving men from sin, and it welcomes to its realm believers and unbelievers. The artificial selection of drafting off our brightest Christian students to the Christian ministry has a tendency to leave the proportion of Christians going to other professions in a minority. This drawback is aggravated for scientific study by a system of criticism that informs a man that on entering science he must either deny his faith or renounce his independence; and if he renounce his independence he will never amount to anything in science. Nobody, not even the scientist himself, can draw the limiting line between legitimate and illegitimate argumentation; and in grave cases the line has been drawn wrongly, to the prejudice of both religion and science. We cannot foresee what we shall ultimately come to; and to start with the resolution that we shall only see the side of science that will favour popular notions of physico-theology is to insure our incompetency and to prevent our ever getting to the front. The history of both Astronomy and Geology is the best argument in favour of

wide toleration, and the best proof that this is really not injurious to Christianity. Science cannot afford to walk in fetters, and an attempt to bind it must always have the effect of confining its prizes to the rebellious.\*

9. The error of the "evil tendency" objection would merit a long discussion. Men brand unwelcome doctrines as having an evil tendency, when they see no direct answer to them. Our reply is that we cannot satisfactorily estimate tendencies; that persons holding different tenets are often alike distinguished for morality; that the real question as to the truth is one of testimony; if the evidence is sufficient we will receive the doctrine, and leave the tendency to take care of itself. In science, as in religion, we can only take what comes to us, without asking whether it is likely to prove beneficial or otherwise to faith. But the Christian scientist enjoys his religion in every step of his work, and its influence tends to confirm, not to weaken, his faith.

10. It is sometimes an error to condemn a book because you do not accept its conclusions. If it shows honest research, it may be valuable and deserving of honour, though the author failed in the last stage. Such was Newton's work on light, already referred to, which served for generations as a scaffold for building up the science of optics. One of its prophecies was that we should find light to pass more rapidly through water than air; the fulfilment of this prophecy in the opposite sense, by Foucault in 1850, gave the *coup de grâce* to the Newtonian theory, and established the wave-theory. Dollond committed a blessed blunder when he entered on a mathematical tournament against Euler, maintaining that a lens composed of differing materials, as glass and water, could never be cleared of its dispersive colours. He afterwards improved on his own work, when by reducing his arguments to experiment, he surprised and refuted himself, and established Euler's principle. Thus he became the fortunate inventor, and his son the manufacturer, of achromatic lenses, as the sequel of his antecedent error.

11. A mischievous error bears on the relation of Divine Providence to Physical Causation. Able men have supposed

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\* Our freedom in Princeton from any religious-scientific difficulty is chiefly due to the happy combination of intellectual independence and Christian sympathy, which characterized the late President McCosh, and which he encouraged in others.

that the less science you find in things, the more Divinity belongs to them. Some have seemed to think that Providence is less providential, and miracles are less miraculous, if natural causation enters in any degree; that "all events truly miraculous" are produced "by the simple volition of God without the intervention of any subordinate cause." We do not pretend to explain miracles as embraced in scientific causation; but we find in our Bible that winds, rain, hail-stones and floods are employed in the performance of His mighty acts, and that the Bible does not trouble itself to say whether the acts are miraculous or only providential, and never gives a hint of the difference between primary and secondary miracles, which the theologian is careful to note. As to matters of Providence, the error appears on opposite sides; the naturalist is so deeply impressed by natural laws that he says, "Hands off!" to the supernatural; the Providentialist proves his faith in the divine working by disparaging scientific explanations. Many of our worthy Christians have been grieved to find one part of nature after another rescued from chaos and subjected to natural law; and to see that every step forward in science involves a mechanical, or more properly physical, explanation: so that now all inorganic nature, and in large measure the organic world, even the actual constitution of the human body, are reduced to physical causation. The old doctrine of "vital force" is now superseded; all the force in plants and animals has come into line with the doctrine of "conservation of energy," and life itself has come to be regarded as only a directive immaterial principle, just as in a more exalted sense God is not a force, but the Author and Director of all the forces of the universe. In the organic world the difficulty of applying physical explanations to all the phenomena is very great. Darwin's attempt to apply these was, we think, worthy of commendation, though his success was very partial. Complete success would not, so far as we can see, involve the dethronement of Providence. The more advanced our theory of nature as a physical system, the more firmly established is our conviction of its origin from, and continued subjection to, the will of God. The investigator who does not see God, and who derives all his stock from human experience of antecedents and consequents, is often unable even to see causation, and sometimes fails to perceive either his own existence or the objective existence of the world: all is to him a phenom-

enon or dream. It is hard for the investigator who does not believe in the existence of God to believe in the real existence of anything, even of his own personality.

12. It is a mistake to suppose that a miracle should ever be capable of scientific explanation. Whatever is so explainable is not miraculous; and the iconoclastic service of science has been rendered in thus exposing mediæval and modern miracle-mongering. The *a priori* improbability of the miracles of scripture as supernatural manifestations is removed by the extraordinary character of the redemption to which they were incidental. Each of them has a supernatural part grafted on to a natural basis. The basis is of course amenable to scientific exposition; and some people fancy that when they have found this, they have "naturalized" the whole miracle.

13. It is an error to suppose that we can explain how the Divine Being operates upon nature. Some people argue that such operation would necessitate the injection of a new force *ab extra*. Malebranche's *Occasional Causes*, Leibnitz's *Pre-established Harmony*, and Edwards' doctrine of *Concursus*, and the illustration of miracles by a supposed extra-wheel in a Babbage calculating machine, are attempts to explain what from its nature must be always inscrutable. We cannot bridge over the gap between the genius of an inventor and the resulting machine; or even between our own mind and the act of our hand. Yet we never suggest that mind has no control over body. If we could give a physical explanation of their relations, we should either materialize mind or spiritualize body. Thought may be regarded as the spiritual aspect of matter, but even this we are unable to prove. In a similar way, whosoever detects the divine contact with matter, as by reaching the Deity from a material starting point, will reduce Him to membership of the material universe, as surely as the sun and the star Sirius have been brought into our system. Any objection to belief in Providence, even in a particular Providence, because of our inability to comprehend its mode, would *a fortiori* render it impossible for our own mind to act on our environment. It would on such principles be as difficult for God even to know what is occurring in His world, as it is to direct it, as His knowledge may be regarded as a measure of reaction of the universe upon His own Being. Nor can our argument be evaded by a materialistic theory of mind itself; for whatever be its relation to its material investment, we must assume that the

Divine Being has at least an equally pervading relation to all nature.

14. There is a wide-spread opinion that the acceptance of the evolutionary theory of the origin of man would destroy our faith in the great doctrines of the Gospel. Without going into detailed argument we think it can be shown that the Christian Evolutionist would still hold to the miraculous creation and endowment of the spiritual and moral nature of man, and to his immortality: and in general to the essential doctrines of our religion. The case would be the counterpart of that of the arch-evolutionist George Romanes, when he turned Christian. He came into the enjoyment of a new set of very happy experiences, and yet did not find it necessary to discard a single item of his scientific ideas.

15. We deem it a mistake to assume that the conflict between science and faith is only mischievous; and we hope that people will remember that "science falsely so-called" is not in the Revised Version, and that the passage so rendered in the older version does not contemplate what we call *science*. Bad things are very often ventilated in the name of science; and the conflict is hurtful when scientific scepticism goes on the war-path, or when students of science are suspected by the community. But even here there are compensating benefits. Sharp criticism is wholesome both for Christianity and for science; it compels people to re-examine their foundations and to marshal their evidence. Christianity owes to science the overthrow of superstitions, and greatly improved conceptions of the works of God, also new confirmations of Scripture and refutations of once dominant idolatries. Both religion and science are greatly helped by the brisk controversy that attracts the public attention. No subject is ever of much interest until it becomes a matter of debate:—the debate resulting from and often adding to men's appreciation of its value. If physical and religious questions were all settled, they would lose their attractive force. The discussion is going on all along the line, and he who believes in his cause will have no fear of the result.

On the motion of the CHAIRMAN a vote of thanks was accorded to the author.

## DISCUSSION

The CHAIRMAN.—We have listened with great interest to this paper, which covers a large ground, and the subject is full of interest to all those present. Professor Macloskie has treated the subject from a very broad and liberal point of view, and we are much obliged to Dr. Kidd for reading the paper so distinctly and clearly to us.

Dr. KIDD.—I only wish to make a few remarks in explanation of the apparent inconsistency which arises on my reading the paper. I suppose it is by the fitness of things that I have been asked to read the paper, in which there appears to be a rather strong condemnation of the attempt to set up an issue between religion and evolution; so I desire to explain that I cannot go entirely with those views of Dr. Macloskie's in which he speaks of evolution alternated by creation and that evolution is only creation by evolution. I think that is to confuse things that differ. I do not think that any service will be rendered to either science or religion by evading an issue of this kind, which has been raised for a generation, or more, and which will be always raised, by the question whether this world came into existence, as we see it now, by a process of development from *nebulæ*, or whether by the direct agency and work of God. I desire to say that I take the view of the creation which is given in Genesis i, 1: "In the beginning God created the heaven and the earth," and that word "create" as used there is used only as applying to the agency of God and never of man. It refers to bringing into existence that which never existed before, and one must be prepared to stand or fall, I think, by the meaning of the word "create," and not by this half-hearted "creation by evolution," which is an attempt to "run with the hare and hunt with the hounds." "Of course *creation*, in this connection, refers to the secondary creation of living things out of already existing matter, living or dead." But that lower form of creation is too small altogether to be taken for man by those who believe in his special creation. However, I think the paper is a very valuable one for this Society.

Dr. GLADSTONE, F.R.S.—I can only say that I have not had the time or opportunity to study this paper so as to speak to my own satisfaction upon it. I never saw it until this morning when I

was just leaving home, and then I looked at it and was struck with it, and thought I would manage to be here this afternoon. As to the general tone of it, I agree almost entirely with the statements here, and I agree also with that book which is referred to on the first page, viz., that of Ex-President A. D. White—his able sketches of the conflict between religion and science. I think that is one of the most valuable and important books that have come out recently.

The subject here is one that I have been thinking of, certainly, for this last sixty years, for even as a child I used to think of these things, and I have in my pocket a little paper. It is, I believe, forty years old, and it is headed "The Development of the Divine Revelation." It appeared to me, during the discussion about Darwinism and development and evolution, the discussion seemed to be too old. Theologians have been constantly believing in the development of the Divine Revelation. Why should not they believe in various forms of beings upon the earth? I welcomed that book of Darwin's *The Creation of Species*, because it explained a number of difficulties I felt then, and it seemed to me to tell you so thoroughly the nature of God's way of dealing with the universe; but I must not speak of personal feeling in that matter.

There are many matters which are very well worth considering as bearing on the whole history of this controversy. I am inclined to think that a great argument might be advanced in regard to it which I have not yet met with, viz., that in very early pagan times the old religions of the old world were, to a large extent, natural religions. Natural forces were looked upon as deities, and the prophets were the expounders of nature, and strange were the explanations they gave. They were to a large extent hypothetical, but I know the tendency is to give them a literal meaning; but it is curious, I think, why it should be considered necessary that the Sacred Writings should give the true revelation as to Nature. The writers of the Bible never professed to do that, that I can see. They, of course, frequently refer to Nature, and with the exception, perhaps, of that passage in Genesis i, which of course is matter of an exceptional character, they do not lay down anything except just speaking of the objects round about them in such a way as an intelligent person would employ. Look at the descriptions of Nature in the Psalms! They are in poetic language, and very

beautiful they are. They are not intended to teach us what the subjects are, but to lift our minds up to God as the Creator, the Governor, and Director of all. So with the teaching of the Great Master Himself. He took lessons from all the different objects round about Him. He used these lessons frequently, in a somewhat poetical sense, *e.g.*, "Consider the lilies of the field, how they grow; they toil not, neither do they spin: and yet I say unto you, that even Solomon in all his glory was not arrayed like one of these." That is poetical or metaphorical. Our Lord spoke of those objects that were round about Him, and used them as great lessons, and I think the descriptions of Nature throughout the Bible are only employed in that way to direct us to higher and greater things.

In regard to the question discussed just now as to creation, I believe thoroughly with the writer of this paper in creation by evolution, and I do so because I think we ought to use all those words, as nearly as we can, in the scriptural sense of the term, and therefore I use the term *creation* in the sense in which I think it is used in scripture. This word is always applied to the work of God, and never to the work of man—I believe that is invariable—but in the dozen or twenty cases in which it occurs in the Old Testament it is never once used, I believe, for "creation out of nothing." In Genesis i we have it, "God created the heavens and the earth"; but of course the question then arises as to what He created them from—whether from nothing, or from things that already existed.

When we come to other parts of the Bible, we find the Psalmist speaks of the animals and plants then existing, and the earth, as having been created by God. Of course they were created in the ordinary way—not made out of nothing, but by evolution. I think I am right in saying you will find that half, or more than half, of the cases in which the word *creation* occurs, it is clearly a creation from something which preceded it, and in the other instances there is nothing to indicate it one way or the other. It appears to me that the idea of God creating by a gradual progressive method is a far greater and far more noble and far truer conception of His work than that plan which is believed in by those who do not hold that view.

I hope you will excuse my mentioning in this very simple and rough way some of my thoughts on the subject.

The Rev. Dr. PORTE.—Perhaps I might be permitted to say, in regard to the statement that has been made in this room that God is supposed to have created man out of nothing, or anything out of nothing, that as far as I know Genesis there is no such statement made, and as far as I know most ordinary students of the Bible never hold any such theory. We hold that God formed this world as it now is by a process of stages, as we believe, from what is described as something “without form and void.” There is not a word about its being formed out of nothing. We know, I hope, what that something “without form and void” means. Creation does not profess to go beyond this, that God took that which existed then, and perhaps every process or stage lasted millions of years. I suppose many of us believe (who are not otherwise believers in evolution) in a certain sort of evolution spoken of in the Bible, an evolution from a lower to a higher thing. We believe in animals of which we are told remains are amongst us to-day, those strange, marvellous creatures that for many generations lived on the earth and have passed away; but I think that many of the leading scientists acknowledge that there is not the slightest link between successive generations of various birds, beasts, and fishes. We speak of the successive stages of the world, and when it comes to man himself we are told that God formed man out of the red earth, that He took the earth and built up man, and, as was said just now, God formed him a perfect creature.

Mr. THRUPP.—The inevitable conclusion to be drawn from the arguments of the two last speakers is that God did not create material. To my mind that is an utter fallacy. The great mischief, I think, in all discussions of this question of evolution is that it is assumed that evolution is proved. The great difficulty of studying the subject thoroughly prevents a very large number from going into it, and therefore they more readily accept as proved that which great men have laid before us. But now, to refer to the paper itself, we see what a great assumption it is to take evolution as proved and as a thing we have to reconcile with religion. At p. 222 you find these words: “Neither natural selection nor Neo-Lamarckism goes back to the real origin of variations, a point which is yet unknown.” In other words, that the very first step of evolution is not proved—not known. If people would only think thoroughly upon it and really study

it, there are such constant admissions, even from those who contend for it, as to make them pause before they accept it as a thing proved. Take Wallace, who was the co-originator, in this century, with Darwin of the theory of evolution. In his work (*Darwinism* I think it is called) he distinctly stated that there were three exceptions in the development of the world—the origin of life, the origin of mind, and the origin of spirit, and he uses this remarkable phrase: that as to these three “they must have originated from the spirit world.”

Wallace has stated that he is an evolutionist, and people seem to think that he has accepted all the various statements put forward by evolutionists; but when a man, standing so much in the forefront as he, makes these distinct exceptions, how can we say that evolution is proved? The fair argument, therefore, is, if these three grand steps or stages in the development of the world are due, not to materialism, not to naturalism, not to any development, but are the actual work of the Great Supreme Spirit outside the world altogether, it is but reasonable to assume that in all other matters there is the same ruling Spirit bringing about and causing all things; and if we once believe that mind was created, that life was created, and that spirit was created, what difficulty is there in assuming that the very first animal, fish, and vegetable were also created? In all these matters there has been too much assumption that evolution is proved.

The Rev. Dr. PORTE.—I am afraid I have been accused of what may be considered very shaking heresy, which I have no idea of promulgating. The last two speakers have said that I had practically declared my belief in the eternity of matter. I declare no such thing. I do not believe it for a moment, and I never dreamt of such a thing.

Dr. GLADSTONE.—I do not know whether it is necessary for me to say that I believe God is the Creator of all things, and that He is now evolving, by gentle stages, from the imperfect to the perfect, and from the inferior to the superior.

The discussion, which was of unusual length and interest, was continued by the Rev. A. M. CHERRILL, Colonel ALOES, Professor LANGHORN ORCHARD, Dr. HAYWOOD SMITH, Captain PETRIE, and Professor HULL.