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1897.

ORDINARY MEETING.*

THOMAS CHAPLIN, ESQ., M.D., IN THE CHAIR.

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

MEMBERS :—Rev. W. A. Bird, F.R.M.S., Bahama Islands ; Rev. J. H. Enders, United States.

ASSOCIATES :—M.-General C. G. Robinson, R.A., London ; Rev. N. J. Warner, B.A., Ireland ; Rev. C. J. Wood, B.A., S.T.B., United States ; Courtney K. J. W. Tyndall, Esq., London ; Rev. D. R. Breed, D.D., United States ; R. B. Armour, Esq., United States ; G. M. Weaver, Esq., United States ; Aquila Dodgson, Esq., Yorkshire.

The following paper was then read by the author :—

ON SCIENTIFIC RESEARCH AND BIBLICAL STUDY. By the REV. CANON R. B. GIRDLESTONE, M.A.

THERE is a rumour current among certain classes that scientific men have dropped their belief in Christ, in the Bible, and even in God. This, as stated broadly, is not true ; though doubtless there may be some slight ground for the assertion. The Bible contains at first sight some things which run counter to the principles on which modern natural science acts, and persons who do not profess to be scientific, but who have watched with interest the researches of the last fifty years, have had their faith sorely tried, and have seen the need of reconsidering their attitude towards the Bible from time to time.†

On the whole, however, the tendency of things seems hopeful rather than otherwise, and I propose to enumerate the points in which there has been an approximation between scientific research and biblical study, and to

* 1st of 1896 Session. Discussion finally arranged 1897.

† See note, page 42.

indicate certain desiderata which must be supplied before complete harmony is established.

I take the word science in a large sense. I include all investigations of the natural world, and I do not exclude the phenomena of human nature, the higher as well as the lower, the past as well as the present.

1. The scientific man by no means ignores the Bible. He recognises that it is a factor not to be overlooked, and its utterances are considered with a certain respect.

Few would deny that the facts recorded in its pages have been a stimulus to research during the past few centuries.

Whereas a large proportion of the Bible was a *terra incognita* to the historian of the past, it is so no longer. Not only have the books of the New Testament been pushed back on strictly historic and literary grounds to the century whence they professedly spring, so that their contents may no longer be regarded as mythical; but also the facts recorded in the Old Testament are taking their places among the materials which the historian of antiquity must digest and reckon with. The historic framework of the Old Testament, so far as it is not purely internal, is established in the main as historical, though not yet confirmed in all its details. Egypt and the East are rapidly yielding up their secrets, archæology and linguistic lore are contributing their testimony, and with rare exceptions, if any, it is confirmatory of the genuineness and antiquity of the biblical narrative.

2. The scientific man is increasingly conscious of the limitation of his powers and functions.

Every addition to the known opens a new vista into the unknown. Specialisation is the order of the day. Physical science is itself only a specialised branch of universal science.

Many things are given up which were the delight of old times. Men no longer hunt for the philosopher's stone, for the secret of renewal of youth, for a method of attaining perpetual motion. The investigator of nature has ceased to look for *Power*, and is content with *Process*; he does not peer into a gland with his microscope in the hope of finding the *ego* there. Intent on the secret of the origin of life, he has given up—or seems to be on the point of giving up—the idea that the living proceeds from the non-living without the intervention of preceding life.

3. The scientific man no longer stumbles at some of the old difficulties which have called out the ingenuity of so many "reconcilers."

He no longer measures human history by untold myriads of years, for the physicist steps in and forbids it. The longevity of primæval man is not now scouted as an utter impossibility, thanks to the investigations of the anthropologist. The story of the Flood is to him a matter of serious study, as the debate on Prof. Prestwich's interesting paper read before the Institute has shown. The student of comparative philology is prepared to detect in the simple story of Babel some strange intervention which may account for what is otherwise unaccountable—the remarkable divergence of human languages viewed in connection with the unity of the race. The crossing of the Red Sea has been recently discussed by this Society, and was regarded as a fact, not as a fiction. I would also call attention to the correspondence now going on in the pages of the *Palestine Exploration Quarterly* on the stoppage of the Jordan when Israel crossed.

The ancient biblical law of heredity has emerged as a scientific discovery.

Parthenogenesis is a familiar topic to the naturalist, and perhaps supplies an illustration of one of the most mysterious facts of Christianity, whilst another mystery—that which concerns the Triune God—may at least be symbolised by the presence of several sense centres in one organism in what are usually regarded as among the most primitive kinds of animated life.

4. The scientific man no longer regards his conclusions as final. So many theories have been advanced and withdrawn, so many that looked like solutions of difficulties have proved unworthy of the task, so many that seemed to account for phenomena have needed themselves to be accounted for, that men of science have ceased to compare their dicta to the laws of the Medes and Persians which altered not.

Ideas and speculations when sufficiently tested are rightly put forth as discoveries or as working hypotheses leading in the direction of finality though not in themselves final. This might be easily illustrated from Whewell's *History of the Inductive Sciences*, or by modern speculations concerning ether, or by the discovery of argon.

A theory which fits all the facts, *e.g.*, gravitation, may fairly be propounded as a law or rule, *i.e.*, it is a technical or mathematical formula which expresses the rule and measures the facts, and which contains within itself the suggestion of

finality, and of universality, but that is all. These laws are demonstrated as true, or as being in harmony with the universal truth of things, by tests and by discoveries made on the strength of them. Sometimes the intangible can be turned into the tangible, and so demonstrated, as in the case of oxygen. If ether could be captured and condensed into (say) argon, and if argon could be exhibited in a flame or a sound, we should acknowledge these discoveries to have received the topstone of demonstration.

I am inclined to inquire, in passing, whether evolution has reached this stage. Is it final? Is it a law? or is it an *ad interim* speculation, helpful and suggestive, and calculated to lead up to something which may have more of finality about it? I venture to think that the latter is the true view.

Accidental variations in animals of the same kind tend to aid or hinder the struggle for life and to reproduce themselves in the next generation. To advance from this suggestive speculation to the hypothesis that all sub-species, all species, and all genera of the animal world might, in the course of untold ages, have sprung from one beginning, —well, it would take a good deal of persuasion. To suggest further that the same theory may be argued by analogy in the case of the vegetable world, and that having got so far we may safely take the next step and amalgamate these two worlds into one, as being analogous in their course and therefore identical in their beginning; this is a splendid conception, and betrays a brilliant imagination, and provides a wide scope for investigation. Ordinary people, however, cannot but regret that a few experimental illustrations of the automatic development not only of species but of genera should not be forthcoming.

We all recognise the fact of gradation, though we cannot all accept the theory of automatic evolution based on accidental and inherited varieties. We may believe in an ever advancing stream of life embodied at certain stages in new species and even in new genera, but while some regard the embodied types as lineal though modified descendants of heterogeneous predecessors, others decline to do so without more definite proof than is forthcoming at present.* I can imagine a theory which would regard each type as a *terminus*

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* See Professor Huxley's paper in *Nature*, November, 1894.

which has been from its first appearance what it is now, while the stream of life which has led to it tends to advance further to form new kinds. This may seem ideal, far-fetched, and platonic, and I say no more about it. The question of questions is, Whence comes the stream of life, and the tendency to vary, to inherit, and to evolve or develop? Is it from above? or from below? or is it really capable of being regarded from both standpoints?

After all, evolution is no cause, it is only a formula designed to express the processes of nature. It presupposes creation, *i.e.*, intelligent, originative force; and the more extensive, complicated, harmonious, and age-long these processes of nature, so much the more do they indicate some unity of method and design in the background, which call for an eternal, overruling, designing—and therefore personal—Cause, and which I am content to call, so far as science is concerned, Ἄγνωστος θεός—a God whose nature cannot be comprehended by the unaided intellect of man.

I have been showing that so far as I can see there is some approximation between modern scientific ways of putting things and the convictions which a biblical student holds dear. Much, however, remains to be done, and I venture to call attention to some *desiderata* bearing on the subject before us.

(1) There is a great deal of dogmatism on both sides, especially among the lesser lights. I have heard it said that young ladies rush in where professors fear to tread, and many things are ardently thrust forth on the "all or none principle" by young enthusiasts on both sides, who thus hinder rather than help the cause which they have at heart. Verbal inspiration is claimed, now for the Bible, now for the Professor. Perhaps the voice of those who hold that there are degrees of inspiration and consequently of authority, ought to be heard not only in the biblical world but in the scientific.

(2) There is a tendency in Bible readers to disregard the processes of nature on the ground that the Scriptures claim all nature as under direct Divine administration; and there is a counter tendency of science to economise the Divine action to the uttermost, to push it back into the region of the prehistoric and mythical, whence it fades from view altogether. We ought to come to a mutual understanding on this matter, and a little reflection will show that it is possible. A careless student might imagine that by the discovery of the law called the Conservation of energy, there was neither

room nor need left for God in the universe. But those who first announced this law, did not drift to an atheistic conclusion.

Imagine if you can a fixed amount of equally diffused homogeneous matter in its raw or primary condition in the universe, the amount of energy in the whole remaining the same now as in the beginning, still the question—perhaps I ought to say the provoking question—will arise, Whence came it? Who and what first caused differentiation to begin? By what marvellous fate or fortuity did the varieties of the animal, vegetable and mineral kingdoms spring into existence in this little planet? and, notably, how do you account for those chief centres of energy, human personalities? For these cannot be classified with heat, light, and other physical forces, and when they die they give no sign of being under the law of conservation of energy in any real sense.

The more one speculates on these things, the more one sees that conservation of energy simply means conservation of *physical* energy, and only applies to one side of existence; the same being the case with the earlier discovery of the correlation of the physical forces, and its offspring, the continuity of physical force.

The substitute for creative action is automatic action. But automatic action, which by-the-bye in its true sense is as old as the Greek Testament, by no means dispenses with preceding intelligence and force. It would be vain to put a penny in the slot if there were no carefully constructed machinery and no chocolates within. All machinery, even the machinery of the universe, is the product of intelligence and of power.

(3) This leads to a third desideratum, viz., a more full discussion from a strictly scientific point of view of the mental and spiritual side of human nature.

The world has been interested if not agitated by Mr. Balfour's late volume on the *Foundations of Belief*. With all due respect to the author, I confess that he seems to shine more as a critic than as a constructor. He is skilful in pointing out the serious failure of "naturalism," *i.e.*, materialism, to satisfy the needs and demands of human nature as a whole.

I have no sympathy with him when he attacks the verdict of our senses. If I mistake not, he has not even touched or broached that about the senses, which makes

them so safe for the practical purposes of life, viz., that we are provided not with one sense only, but with many, and that they work in harmony, and confirm or correct each other, whilst reason, or the inner man, interprets and re-interprets all the phenomena which they bring to it. Nor am I altogether satisfied with his theory of nervous transmission, which indeed is the ordinary one, that the image on the retina is carried along to the brain, and thence to the *ego*. Why should not the *ego* run to the retina, and thus come into immediate contact with that which the light has brought there. Nor do I find his own final view of things one which I can grasp clearly and use effectively. I prefer a view which he mentions and dismisses with doubtful approbation. I believe that every human being is on the border of two worlds; he belongs to both, and both belong to him; he is the true meeting place between them.

Personally (if I may say so) I owe a great debt to the school of Kant as embodied in the teaching of Sir W. Hamilton and Mansel (whose Oxford lectures I had the privilege of attending). I also owe a debt to the school of Mill, whose "unknown possibilities of sensation" are discussed somewhat unsympathetically by Mr. Balfour. But there is a third school, which may be called Scotch, but whose most worthy representative was the late Dr. McCosh, formerly of Belfast; in the kind of teaching to be found in his "intuitions of the mind," I see a better prospect for sound mental philosophy than in Mr. Balfour's *Foundations*. It is vain to attack the school which puts its faith in the senses as interpreted by reason. But it is equally vain to ignore that the *ego* is a denizen of a sphere of being which the senses alone tell us nothing about.

Descartes' celebrated dictum, "*cogito, ergo sum*," which is graven on his statue at Tours, is the true basis of a sound philosophy of human nature. It will have its physiological side, but it must also have its psychological and intuitional. Consciousness—not *self-consciousness*, which seems to me an utter misnomer—is the basis of a true philosophy of human nature; and there is plenty of room within its boundaries for the dialectic of a Balfour and the analysis of a Spencer.

(4) Another desideratum is a free and full historical inquiry into the original nature and position of man.

Whilst the tendency of geology is to reduce the time needed for man's first appearance to a comparatively modern period, the archæologist is pushing up the age of literature

and civilisation until it is almost within sight of the era of primæval man.

It would be strange if, after all, the earliest evidences of the existence of man should point to a time when the traces of his mental powers were particularly conspicuous. And yet such a conclusion is within the bounds of possibility. It is, to say the least, conceivable that the special force which caused the first real man to be—whether that force worked through slow gradations, or in the twinkling of an eye—may have prepared him for his unique position as a master upon earth, by making him inventive and adaptive, long-lived and strong, to a degree which we cannot now easily comprehend.

The materials in the hand of the anthropologist are not as yet sufficient for the solution of this problem, but it is an intensely interesting one, and must be kept steadily to the front in the coming century.

Nor must it be forgotten that we are in the midst of geographical discussions as to the position of Paradise; whilst the last word has not yet been said on the original language of man, and on the dissemination of primitive written characters in their simplest forms, east and west.

(5) The scientific criticism of the books which culminate in the mission of Christ has yet to be perfected. I am not speaking of the so-called "higher criticism," but of something quite different. The criticism which I desiderate has its archæological side and its linguistic. Nor is this all, for the Bible presents a large field of inquiry; its records include matters which touch the domains of physics, astronomy, and natural history.

The exploration of ancient cities is being rapidly reduced to a science, thanks in a large degree to the unwearied enthusiasm and patient skill of Prof. Flinders Petrie. He has shown that what geological strata are to the pre-human period, that layers of pottery are to the human, and to read their message rightly is as much a branch of science in its true wide sense as is the interpretation of the fossil remains beneath our feet.

As the scientific student sees a great deal more in nature than the casual observer, so does the student of archæology find increasingly that the Bible is a living book. Its vivid historical and local colouring makes it what no other collection of sacred books even professes to be.

On the linguistic side of biblical study I desire to call

special attention to those sections in the Hebrew Books which specially contain provincialisms. These provincialisms in the Bible appear to me to be a mark of age and of originality. They demand a far more careful examination than they have hitherto obtained, and recent discoveries, especially the Tell Amarna tablets, are contributing materials for their comparative study.

There are other phenomena in the Bible, such as its way of putting things, its selection of topics, and its systematic tracing of everything back to the First Cause, which are replete not only with interest, but with philosophy. Its statements concerning natural phenomena need to be interpreted with extreme accuracy, both on their positive and on their negative side; whilst the series of marvels it records are to be read alongside of its theology and its central teaching, and not as a collection of isolated curiosities or fables. They are signs; and the thing signified by them takes us to the very heart of the Creator.* Inductive principles which are the keys to nature are applicable *mutatis mutandis* to the Bible on all the topics now enumerated; and if these are applied, there will not be any need of far-fetched and ingenious "reconciliations" between the Bible and science.

If nature must be studied as a whole, so must the Bible. It is a collection of books by writers who unwittingly contribute to a scheme the key to which is to be found in one historical Personage. To discuss the books without reference to the Personage is like anatomising a body without reference to its head. We can hardly expect the scientific man in the ordinary sense of the term to study the Bible scientifically unless the theologian does so. Ordinary versions do not always bring out the technical sense of Hebrew words and idioms, and even such a man as Professor Huxley sometimes failed in his criticism of the Bible through an ignorance of biblical science which was very pardonable in his case.

(6) The greatest desideratum of all is that Theism should be approached with steady steps from two sides, the Biblical and the scientific.

It is manifest to everyone who thinks at all that God must be reached in some other way than by the telescope or the microscope. The forces and processes of the material universe do not affect His nature or touch His Being.

* See De Quincey's *Essay on Miracles.*

Space and time, which are the very warp and woof of our existence, are not to Him what they are to us. We can no more see Him or comprehend Him than we can see or comprehend a molecule or an atom. How then can we study His ways?

It is to human nature—its most spiritual part—that we must turn if we want to catch even a whisper of His real nature.

"Show me thyself," said a Bishop of Antioch more than seventeen centuries ago, "show me thyself, and I will show thee God." And so Descartes said, "Nature conceals God, man reveals God." Here then is the call to the man of science. If the existence of a planet can be inferred from the movements of other bodies, may not the existence of the Great Spirit be gathered from certain perturbations of the human spirit.

I am persuaded that the phenomena of human life and history may be studied far more scientifically than has been done hitherto in order to find illustrations of the Divine character and methods. It is true that these are not always patent; they do not lie on the surface; for He is One who hides Himself and what is still more remarkable, He restrains the use of His own power and permits Himself to be resisted and apparently thwarted by man or by some evil power behind man.

At times we stand abashed and silenced as we realise that there are vast regions of existence of which we know next to nothing. I do not speak of the stellar but of the spiritual heavens. The Bible possesses a uniform system of psychology, of morals, and (I think) of metaphysics. Its writers are convinced that we live on the borders of two worlds whose laws are analogous—I will not say identical—and that the material world is a nursery for the spiritual. May not scientific men look into this spiritual world? Do they not recognise psychology as science? May they not investigate on scientific principles its immaterial side, where three empires meet, the psychological, the ethical, and the spiritual? Both parties now recognise the impassable gulf in nature between body and soul, and both agree that these two are marvellously blended into one in human life. We cannot even be conscious of the material without exercising the immaterial.

I am not pleading for metaphysics, though I for one do not think they are yet played out, and I see no reason why the words "subjective and objective" should not be baptized

afresh in the twentieth century. I plead rather for a more careful inductive survey of the special phenomena of the universe as detected in human nature and revealed in certain phases of human consciousness, and especially in the Will.

Modern popular theologians are apt to pride themselves on steering clear of what is called Calvinism, in spite of the warning voice of the late Prof. Mozley.

Shutting their eyes to another side of truth, they affirm the freedom of the will; though they have learnt that this freedom is limited, a fact admirably set forth by the Bishop of London in his 3rd Bampton lecture. Scientific men on the contrary seem to draw in the direction of physical fatalism; at least this is an inference frequently fathered on their writings.

Yet the Will after all is the chief known factor in the universe; and with the Will we must associate the *ego*, and with the *ego* the law of Right; and whence are these? are they the fortuitous products of matter, or are they the outflow of the original personal Mind? Scientific men need not be deterred from giving the true answer through fear of playing into the hands of religion. Let them speak out their deepest and most abiding convictions on this supreme question. Surely they are prepared to affirm that the Theistic hypothesis will account for certain observed facts in the universe, and that a consideration of the spiritual side of human nature turns this hypothesis into a conviction. They are then within measurable distance of the Christian Faith, which invites the Theistic conviction to become a personal experience.

The CHAIRMAN (T. CHAPLIN, Esq., M.D.)—I am sure we owe our best thanks to Canon Girdlestone for his valuable and timely paper. I speak of it as timely, because I believe the Victoria Institute is now just thirty years in existence, and this paper may, in a certain measure, be regarded as a report of scientific progress during these thirty years. When this Institute was first founded such a paper could not have been written, and we have surely cause for thankfulness that so much progress has been made in this

direction. For myself I cannot help thinking that one reason why so much progress has been made, is that those who desire to reconcile science and religion have been bold in grappling with difficulties. Now there is a very great difference between boldness and rashness, and I think we all feel, as members of this Institute, that while we should be very bold in grappling with difficulties and very bold in carrying our investigations into various departments of science, we should ever be strictly on our guard against drawing rash conclusions, whether those conclusions be in favour of the Word of God or whether they seem to be opposed to it.

Mr. D. HOWARD, D.L., F.C.S., &c.—I think we must all agree with our Chairman in what he has said as to the great value of this paper. The chief difficulty which one feels in discussing it is that one agrees with it so entirely, and it is always easier to attack than it is to agree.

It is a wonderful thing to look back thirty years and to see that certainly the course of thought has not made against but for a sound religious faith. I do not say that nothing has been changed. One cannot view any branch of science without remembering a good deal of change. There is hardly a matter of physical science upon which we have not more or less altered our opinions; but progress from immature to maturer knowledge has tended not to increase, but to diminish the gulf between religious and scientific modes of thought. There has been always that ancient though certainly not commendable habit of mind that has regarded any new discovery as a weapon with which to attack religion. It is a very old habit of mind, in fact almost as old as scientific thought, and the very fact that it still exists is nothing to make one anxious. We have passed through a great change in modes of thought, scientific and otherwise.

Looking back upon the "confused noise" that is necessarily associated with battle, we find that in a large measure the confusion has been in the rival armies and has not belonged to the real progress of thought. Scientific and religious thinkers have learnt to understand one another as far as they have been willing so to do.

There is nothing more easy than not to understand—but where there is willingness I think I may say that reconciliation has followed.

We look back with deep thankfulness to the fact that progress has been in the right direction, and that the ancient foundations of our belief have stood without the smallest shadow giving way under the storm of the last thirty years, as they have done under the storms of centuries before this.

The Rev. W. S. LACH-SZYRMA, M.A.—I think during the last thirty years there has been an approach of science to religion. The attitude of scientific men generally is better than it was thirty years ago. It seems to be a little more courteous, and they speak with a little more reserve than they used to in the past.

It seems to me that science and religion are not altogether on parallel lines, but in many matters they are on converging lines, and we have had this to some extent illustrated by the instance which the reader of the paper gave of a sheet of paper seen by the eye on the table and afterwards touched by the hand.

There is much cheap wit spread about by sceptical people, who think themselves clever, to show that science and religion are two distinct things, but when they get to know a little more they will find that what the Christian Church has taught in ages gone by will ultimately be proved to be the truth, even from a scientific standpoint.

Rev. A. LÖWY, D.D.—There are a great many points on which I totally differ from the author; but we are not assembled here in order to indulge in controversy, and therefore I will not occupy your time with a single observation regarding matters on which every man and woman will form opinions peculiar to themselves.

There is one thing that I would ask the learned lecturer which interested me very much, because it is the first time I had heard about it, and that is the provincialisms in the Old Testament. It is a thing to which my attention has never been called in the Bible. I consider there are certain books in the Bible which have quite a different style of expression, and evidently the original was composed in a part where Hebrew was spoken in a very peculiar way; for instance, in Job and in Isaiah there are certain phrases which are quite unintelligible and create differences even between Christians themselves sometimes. For instance, in the 34th chapter of Isaiah you find that the deserted places shall be inhabited by the bittern and the cormorant, and in the new version it is the porcupine and the pelican. Now you see this interpretation shows that we do not always understand certain terms. I do not call them

provincialisms, but I account for it by our individual ignorance. We are no longer in contact with those who used the language, and our ignorance is therefore just as honourable as our knowledge. We have no power of investigation of those things where the lexicons do not guide us. I will also refer to the point mentioned by the author, as to the expression used by Balaam. I know the Hebrew of the passage to which the lecturer referred; but I cannot agree with him that the expression he used was "Kobab" (קבב). I say it is "Nakab" (נקב). That occurs several times in the Bible.

Canon GIRDLESTONE.—But "Kobab" only in the Book of Numbers.

Dr. LÖWY.—In many cases it is "Kobab," and at other times it is "Nakab." Also in the case of "Eliezer," who went on his mission to Rebekah, a certain expression is used which is very curious, but if I may take the liberty of saying so, I think the expression is not peculiar; it means magnitude, and other expressions of that kind occur in the time of Moses, which do not occur often, because they were not often required. Sometimes it happens in our own life that we do not use every day the same expressions, but we use an extraordinary word on a special occasion. There is a special language for the drawing room, and a special language for the kitchen; but I believe, nevertheless, we are greatly indebted to the lecturer for calling attention to these expressions. We find differences of that nature in various books of the Bible. The Canticles are extremely beautiful, but nevertheless there are expressions in them of which we do not know whence they come. I believe there is in every human heart a certain foundation of belief, only we believe sometimes in different ways.

Professor H. L. ORCHARD, M.A., B.Sc.—The author has brought before us certain approximations between the truth of the Bible and the truth of science, and has also pointed out certain *desiderata* which might lead to further approximations. I could have wished that amongst approximations, at the beginning of the third page, the author had mentioned a few more; for instance, it is a very remarkable fact that graphite has been found in the earliest geological region, thus testifying to the truth of the Biblical statement of vegetable life (from which alone this substance could be supposed to be derived) preceding animal life. As we see, year after year, one testimony after another to the truth of the science

and history in the Bible, I think we must come to the conclusion that if there are any difficulties still remaining it becomes all to be exceedingly careful how they put them forward. It is certain in every case that scientific *fact* has never conflicted with Bible fact. What has conflicted has been scientific *inference;* but that must be received with very great caution. One must remember that science is for ever altering, but the Word of God never alters; that in every conflict knowledge has tended to do away with apparent opposition, and that there is not a single *proved* contradiction between the Bible and science.

With regard to the testimony of the senses I must say I very much agree with what the author has said. The testimony of the senses, however, depends on the testimony of consciousness. The author remarked that the substitute for creative action is automatic action, in which I agree.

The Rev. E. SEELEY.—In discussions of this kind one sometimes hears that we have had to give up a good many things. It seems to me that we should pay attention to what is said on this point, for such words are taken hold of by unbelievers, and they think that we have had to give up important truths of the Bible. But is it really so? Can it be shown that any positive statement of fact in Scripture in its original language has been necessarily abandoned as the result of scientific research? Opinions have been given up over and over again; interpretations have been given up. But does that signify? As we go on we must be prepared to change our interpretations of many statements; but that does not mean giving up the truths of Scripture. If we take the record of God's dealings with His creation, and find certain statements made which either were misunderstood in ages gone by or have been misunderstood by ourselves, until new evidence of science has come and cleared away the misunderstanding and enabled us to see them in new light, surely we may say that such changes of interpretation make the Scriptures not weaker but stronger. There are many points which we may understand now, in the light of science, which we could not do thirty years ago. Any of us who read Scripture can mention many points which we do not understand yet, and upon which we require further light, and there are many expressions in the Hebrew and Greek which at present are difficult to interpret accurately.

There is one thing that struck me while listening to the author's

treatment of man in his early days. Like himself I am not disposed to believe all we are told about evolution, but the evolutionists tell us we may see in the development of an individual an analogue of the development of the human race. If so let us answer the evolutionists from their own point of view. When is man most ready to learn, most adaptable, most easily changed and developed in certain special directions? Surely in his childhood. As we get older our powers of adaptation get moderated and we lose them to some extent. We have not the same power of acquiring a language, even, that we had in childhood. Let us go back to the childhood of mankind. Is not it very likely, even from the evolutionist's point of view, that in those years man could adapt himself more easily to climatic and other influences, and also may have been much more ready to take advantage of the peculiar state of the world as developed before his eyes than he is now? But in his early days man had not that accumulation of science and discovery that we have now.

The Rev. R. C. KIRKPATRICK, M.A.—There is one aspect of the question, viz., that if man was three or four thousand years ago, as some would have us believe, an ignorant savage, then the African has had seven or eight thousand years more savagery, perhaps than the white man, and yet if we educate him we find very little difference between the two. I was shown an instance the other day of a man who was perfectly black who was sent over here to a training college. He was head and shoulders above the others in certain acquirements. He said his ancestors had, for thousands of years, been distinct savages, and here you had a man of marked scientific attainments. How does that bear out the theory of evolution? To my mind it is rather an awkward fact to get over.

The AUTHOR.—I thank you for the attention with which you have listened to my paper, and the appreciation which you have shown. One does not like to be too long in a paper of this kind.

With regard to what Dr. Löwy has said, there may be a relationship between the two words "Kobab" and "Nakab" which he has referred to with regard to the curse in the story of Balaam, but the difference is there, nevertheless, even though the roots may be related. It is just as if a particular English writer were to say "buk" instead of "book," so that although the two roots "Kobab"

and "Nakab" may converge occasionally, I feel sure he will find that the words "Kobab" and "Nakab" do not converge at all.

Then as to the Canticles, as Dr. Löwy said, nobody knows where the words come from, and a very happy suggestion has been made that Solomon, who is the supposed author of the Canticles, and I am not disposed to give that up yet, had a great number of outlandish wives, and it would be very odd if he had not picked up some of their outlandish expressions! We are always learning from our wives, and why should not he have learned from them? Besides provincialisms there are certain foreign words which were introduced, whether from Egypt or other sources, for various things. Ivory, apes, and peacocks are certainly names that are foreign, and are supposed to come from South India.

Dr. Löwy.—Yes.

Canon Girdlestone.—If so, that is a very interesting point to notice.

I am glad that Professor Orchard referred to graphite and carbon as marking vegetable probably preceding animal life, as Professor Prestwich says in his book on *The Chemistry of Geology*.

I imagine by automatic action, in the Biblical sense, we mean non-human action; man may till the earth and plant seed, but man cannot make it germinate or vegetate. It is really the earth doing that work, and one is drawn back finally to the one presiding Being who provides the materials from which the automatic action takes place.

I feel interested in the challenge that has been put forth upon questions between science and the Bible. Is there anything we really have to give up? It is because I feel it so strongly, that I plead for a more scientific interpretation of the Bible. I do not feel that the English clergy, for example, devote enough study to the Hebrew technical terms in the Bible. I believe they deserve great study, and that the more they are looked into, the more we shall find there is room left in the record for the final expression of fact. Science has not said its last word, neither has the Bible. As one of the speakers has said, there are many things in the Old and New Testaments, about which we are not clear, but when the last word of the Bible has been spoken, and the last word of science has been spoken, as was said in this room some ten years ago, the two will not only converge, but be in harmony.

The meeting was then adjourned.

COMMUNICATION RECEIVED.

Mr. HASTINGS C. DENT, F.L.S., writes:—

Referring to the author's remark, "Every human being is on the border of two worlds," I would say, or as has been said, "Man has a body, but *is* a spirit."

Referring to the author's words, "The Bible is a living book," I would say:—all will perhaps agree that this is one of the most valuable remarks in this very important paper. It is perhaps this fact—that the Bible *is* a living book, with its daily influences on the lives of hundreds of millions of people, which perhaps more than anything else proves its inspiration. Its natural evidence is perhaps its surest *apologia*. There is no other religion of which this can be said as to its sacred books.

In conclusion there is only *one* item in the paper I regret, the latter half of its first paragraph. The author would appear to refer to such as Professor —— "who threw over his faith to worship a scientific fetich."*

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* Or perhaps to such as, *e.g.*, regard the word "day" (in Genesis) as meaning a day of 24 hours.

NOTE.

There are many in the present day who seek to square every passing phase of scientific research with Revelation, and are alarmed if they are unsuccessful, quite forgetful of the fact that Science is ever advancing and therefore ever changing in its aspects; as was ably and most opportunely illustrated by Lord Kelvin (in his 1897 Annual Address before the Victoria Institute), when he showed that the Science of 40 years ago is not the Science of to-day.—ED.