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JOURNAL OF  
THE TRANSACTIONS  
OF  
The Victoria Institute,  
OR,  
Philosophical Society of Great Britain.

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SECRETARY: E. WALTER MAUNDER, F.R.A.S.

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VOL. XLVIII.



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1916.

## COMMEMORATION MEETING.

HELD IN THE COUNCIL CHAMBER, CAXTON HALL,  
WESTMINSTER, S.W., ON WEDNESDAY, MAY 24TH, 1916,  
AT 4.30 P.M.

IN CELEBRATION OF THE FIFTIETH ANNIVERSARY OF THE  
FIRST GENERAL MEETING.

DAVID HOWARD, ESQ., D.L., F.C.S., VICE-PRESIDENT,  
IN THE CHAIR.

The CHAIRMAN: Ladies and Gentlemen, we will commence by singing the National Anthem.

THE NATIONAL ANTHEM was sung.

The CHAIRMAN: I will now ask the Secretary to read the minutes of the First General Meeting of the Institute.

The SECRETARY: Before reading the minutes of the first general meeting of the Victoria Institute, I should like to read one or two letters that we have received from prominent members of the Institute with regard to our Jubilee Meeting. First of all, let me say that this morning one of our Members, in order to express his sense of indebtedness to the Institute, and to signalize the fact that we are now celebrating the fiftieth anniversary of the first meeting, presented the Treasurer with a cheque for £50. (Applause.) I venture to commend that to the serious consideration and imitation of others like-minded. That is a very practical way of showing our interest in the Institute. Those who are not as well blessed with this world's goods as our generous friend, can still do something for the Institute to celebrate the occasion—that is to say, those who are Associates of the Institute should, if possible, become Members. And all of us, whether Members or Associates, should try and make the Institute widely known. One of the letters I have received is from one of our Empire builders, Sir Charles Bruce.

ARNOT TOWER,  
LESLIE, FIFE,  
May 19th, 1916.

DEAR MR. MAUNDER,

I very much regret that it is not possible for me to be present at the celebration of the Jubilee of the Victoria Institute. There has never been a time when the work of the Institute has been of greater national and Imperial importance.

Very sincerely yours,  
CH. BRUCE.

Then our old and valued friend, Canon Girdlestone, who is not able to be with us, writes:—

SAXHOLME,  
WIMBLEDON, S.W.,  
May 22nd, 1916.

DEAR SECRETARY,

Just a line to say how much I am thinking of your Jubilee, thankful for the past and hopeful for the future. I lately made an Index of 19 of the V.I. vols. for my own use. This gave me an opportunity of estimating the value of the subjects, the papers, and the discussions. We Bible students owe much to the Victoria Institute, and, not least, to its present Secretary.

Yours sincerely,  
R. B. GIRDLESTONE.

Then from another member, Mr. Sydney T. Klein, who is prevented from being with us by serious ill-health:

#### THE VICTORIA INSTITUTE.

There are few people alive now who fully realized at the time, and remember now, the bitter state of antagonism which existed in the middle of last century between Religion and Science, between what was then called Idealism and Materialism. It was fortunately at the time recognized by many lovers of the Truth that there was something radically wrong in this antagonism, and it was a little band of these well-wishers who inaugurated this great Institution to rectify this state of things.

They named it after the great Queen who for nearly a third of a century had reigned over us and ever since has been known in our hearts as Victoria the Good.

In looking back at the past fifty years one realizes what a wonderful success has crowned the fearless endeavours of the Institution, often under great difficulty, to bring Religion and Science together. No Society has ever done a better work for the peace of mind and general mental welfare of the human race. Under its influence both sides have not only given up aggressive action but have arranged their houses in the guise of homes for hospitality rather than as strong castles for offence and defence.

It is fifty-one years ago to-day that the circular which suggested the founding of the Victoria Institute was issued, and fifty years ago to-day the first general meeting of the Institute was held. The Institute was exactly a year in its inception. The following are the minutes of that first general meeting, and, curiously enough, when looking through the register I found that those minutes had never been signed, and I thought it would be an appropriate thing if our Chairman to-day were to sign them as proof that the Institute has been working for fifty years and is still in full activity.

The Minutes of the First General Meeting held on May 24th, 1866, at 32, Sackville Street, London, W., the Right Honourable the Earl of Shaftesbury, K.G., President, in the chair, were then read.

The CHAIRMAN: Is it your pleasure that I sign these minutes as correct? (Laughter.) I will now ask the Secretary to read the objects of the Institute.

The SECRETARY: It has been suggested that possibly there are some persons here who were at that first meeting fifty years ago. If so, would they put up their hands. I am afraid there do not seem to be any. I will now, with the permission of the meeting, read the Objects of the Institute as they were adopted at the first annual general meeting of members and associates on May 27th, 1867, that is to say, when the Institute had been a year in existence.

The SECRETARY then read the original statements of the "Objects" of the Institute as adopted at the First *Annual* General Meeting, held on Monday, May 27th, 1867.

The CHAIRMAN : I will now ask the Secretary to read a letter from the Dean of Canterbury.

The SECRETARY : I am sorry to say that after the cards and notices of this meeting had been printed and to some extent circulated, I received the following letter from the Dean of Canterbury :—

THE DEANERY,  
CANTERBURY,  
*May 16th, 1916.*

DEAR MR. MAUNDER,

I am sorry to say that it will not be possible for me to give the paper that I am engaged to read at the Victoria Institute next week. This morning I had a fall, and have broken my right arm, and I shall be laid aside for at least two or three weeks. I cannot send you the manuscript, for it is not yet ready, and I must reluctantly leave it to you and the Council to make such arrangements for next week as you think fit. Please express my deep regret to the Council, for I had looked forward to the pleasure of helping to celebrate the Jubilee. I should be happy to furnish the paper at some later date, but I can do nothing for the observance of the Jubilee.

Believe me,  
Very truly yours,  
H. WACE.  
(Per M. S.)

Then on Tuesday morning I received a letter from the Countess of Halsbury, informing the Council that Lord Halsbury was suffering from an attack of influenza, and was confined to his room, so that he would be unable to be present this afternoon. In these circumstances some of the principal members of the Council have prepared a series of short addresses relating to the work and objects of the Institute, which will be delivered this afternoon, and our Vice-President, Mr. Howard, has kindly consented to take the chair in Lord Halsbury's absence.

The CHAIRMAN : Ladies and gentlemen, it has not unfrequently fallen to my lot to act as a sort of simulacrum of somebody very much more important. I do not venture to represent Lord Halsbury.

Those who have known him all the years I have done know of his intense personality, his intense earnestness, and his marvellous powers, and I should be very sorry to try and represent him worthily. I only occupy his place, and I am sure you will join with me in asking our Secretary to convey to him and also to Dr. Wace our deep regret that they cannot be present at this Jubilee meeting of a Society they have helped so very greatly. All I am going to do is to venture to be egoistic. There are disadvantages of old age, and one of them is that one is very apt to fall into what my friends call the anecdotage, and I am going to venture rather to be anecdotal than philosophical. I do want to bear testimony to the wonderful benefit the Victoria Institute has been to me personally. Fifty years is a long time, and fifty years ago I was very much in earnest about orthodoxy and science, and I profoundly believed both were true, and they appeared to be fighting violently. Well, those principles of the Institute we have just heard read came as a guiding star to me in those times of stress. Nowadays I am much more sure of the object of my orthodoxy than I was then, but perhaps not quite so sure about the exact expression of it; and as for my science, well, I was cocksure then, and now I really don't know what to be certain of. All the dear old theories (?) of atoms, vibrations of æther, and what not, where are they? One is quite sure that "Magna est veritas et prævalebit," but I suppose nowadays it is pronounced in quite a different way. We pronounce things differently—at least, other people do—but it is the same Latin, the same words. It means exactly what St. Jerome meant when he so translated the Greek. And so there are changes in expression, and before we condemn them, although we may regret them, let us make quite sure there is no change in substance. We find people sometimes expressing an old truth in a new way; do not let us be in a hurry to condemn them. I want to speak about two movements in which the Institute took a great deal of interest, and certainly helped me very much. First of all I am going to speak about evolution, and may I say that the evolution theory, like a good many other theories, has suffered very much by its followers running a great way ahead of their leaders. It is an interesting study how in matters philosophical and theological and in matters scientific public opinion has forced the leaders into a very awkward position in the attempt to make it all quite clear and simple. It is very

tempting to express oneself with absolute certainty, to leave out little difficult and doubtful points, and then the hearers or followers go a great deal further. Now, as to evolution, I am not speaking of the leaders; I am speaking of what the average person understood by the theory of evolution, which was that everything came by chance, that there was no guiding principle, and naturally from that it followed that there was no room for a Creator. Then came Weissmann, who declared that acquired characteristics could not be inherited. That knocked the whole bottom out of that theory of evolution as above stated. Then came that wonderful old monk, Mendel, who spent a lifetime studying the variations of pea plants and the constant reversion to type. Was it worth his while? If you study the results, you think it was. Unfortunately for him he came before Weissmann, and therefore people shut their eyes to what he taught them. The result is this—if I may sum it up with the vulgar inaccuracy I have accused the populace of in other things—it seems to me that, after all these years, those who patiently waited find that, whatever there be of evolution in the creation of the world, it is governed, not by chance but by fixed laws, and where there is a law there must be a lawgiver, and if the omnipotent Lawgiver was pleased to create by evolution, all I can say is that, as Kingsley wisely put it, “It is a great deal easier to make a thing than to make a thing make itself.” If God worked by evolution, it is more marvellous than if He worked by direct creation. Another example: In all the storms of criticism, higher and lower, I begin to wonder whether what Lord Bacon called “the Idol of the Den” must be allowed to govern all questions of history. I remember very well that it is only seventy years ago when Sir Henry Layard carried out excavations in Nineveh, and brought the first of those great slabs to the British Museum, and then began to study the inscriptions on them. It appears that, after all these years, these ancient inscriptions throw the most marvellous light on the accuracy of the Old Testament. They do not always agree, but do accounts from Berlin always agree with those from Paris? Learned members of the Institute have given us great enjoyment by their researches in these old inscriptions, and have certainly helped many to wait and see, and I think it is worth waiting and seeing before one gives up belief in Moses or dreams that some romantic writer invented Abraham. I want to go further. I have just touched on two points,



but I do say that nothing has been proved that can shake our faith. Don't doubt; don't let difficult questions shake your faith. You may find that you have to alter your expressions; you may realize as you go on that you cannot make Eastern men think exactly like Western men. You realize that the Hebrew writer does not express himself exactly like the Greek writer, and certainly neither express themselves with the looseness of the modern pamphleteer.

The CHAIRMAN then called upon the Rev. JOHN TUCKWELL to address the meeting on

*THE WORK OF THE INSTITUTE AND SOME  
INTERPRETATIONS OF SCRIPTURE.*

THE object with which this Institute was formed was the investigation of questions of philosophy and science, more especially those that bear upon the great truths revealed in Holy Scripture, and it is a fact sometimes used in disparagement of the Institute that after fifty years' work the predominant opinion among its members in regard to Scripture truth is that which would be described as "conservative." But why are we not denying the personality of the Creator; the immediacy of His activity in the creation and government of the universe; the immortality and moral responsibility of man; the truthfulness of Holy Scripture; the supernatural character of its inspiration; the authenticity of its historical records concerning Jesus Christ, and its supreme authority over the faith and conduct of mankind? Why, if all those views of truth called "conservative" have been superseded, have fifty years of investigation left them predominant among our members? There is only one answer: the verdict has been in our favour and the non-contents have failed to prove and to sustain their case.

But let me not be misunderstood. I do not mean that we stand in all things exactly where our fathers stood fifty years ago. I do not admit that we have made no progress, nor claim that we possess all the truth even now. Those whom we may call progressives have in many cases presented to us science and philosophy in the making, and we have reason to be grateful to them for a little steam as they have reason to be grateful

to others for the brake. We have learned much, and have had to modify some of our views and qualify many of our terms in stating them. Let me select one or two illustrations.

1. Geology and Genesis. When geology first became popularized the young giant was sometimes led forth by his backers with the threat against us that he would destroy our faith in the Bible. Its cosmogony, we were told, was utterly contradicted and destroyed. But though the giant was led forth to curse, he has remained to bless. The order of the events in Genesis i is found to be so marvellously in accord with the known facts of geology that it is as certain as anything in human opinion can be that no writer writing 3000 years ago could have possessed such scientific knowledge as would have enabled him to write it. No geologist now ventures to affirm that any serious discrepancy occurs between the two records, while the incredibly legendary character of the Babylonian myths affords no explanation of the origin of a record so extraordinary.

No man witnessed the dawn of light on the First Day, or saw the seething waters of the Second, or stood amidst the gorgeous vegetation of the Third. No man saw the breaking of the sun's rays through the thick mists of the Fourth day, or confronted the mighty saurians of the Fifth or the huge mammals of the early Sixth.

We are left, therefore, with only one explanation, viz., that the writer, whoever he was, and whenever and wherever he wrote, must have written under the guidance of a supernatural knowledge.

But the adherents to the Genesis narrative have had to make some concessions to the geologist. We may not say that fossils were created and buried deep in the earth's surface in order to test our faith, nor that creatures whose remains are found in the Palæozoic strata lived, grew great, propagated their species and died within a few hours of those which lived in the Mesozoic or the Kainozoic. We have to admit the story of the "ages," and this admission has given more vivid meaning even to New Testament expressions. When the Apostle (*pace* the critics; Heb. xi, 3) says, "By faith we understand that the ages were framed by the word of God," we see at once his reference; or when he says again, "according to His own purpose and grace which was given us in Christ Jesus before the times of the ages" (II Timothy i, 9); or again, "in hope of eternal life which God that cannot lie promised before the times of the ages" (Titus i, 2), our thoughts stretch back over the long

“ages” during which the earth was becoming prepared to be the abode of man, and we may well be grateful to the science which has given us this enlarged view of our Creator’s past purposes and works.

Before leaving this subject let me refer to the invaluable address given to us by Lord Kelvin (*Transactions*, Vol. XXXI), from the careful study of which we may learn that it was not without reason based upon the facts themselves that in *v. 2* two different words, תְּהוֹם and מַיִם (*tehōm* and *mayim*), “deep” and “waters,” were used to describe the two differently constituted liquids which in two successive periods covered the surface of our globe. In that same address he quite effectively disposed of the claim made by the adherents of Scripture on the one hand for the limitation of the period of Creation to a few hours by the clock, and to that made by the evolutionist on the other for thousands of millions of years since the beginning of the Cambrian Period. To the latter Lord Kelvin curtly says in effect: “You cannot have more than from thirty to forty millions of years at the most.” In this branch of research between Scripture and science, then, the Institute has rendered invaluable service to every seeker after truth.

In the few moments left to me let me refer to one other branch of research. About the time of its formation we began to be told with increasing emphasis across the North Sea that Moses could not have written the Pentateuch because the art of writing was not sufficiently known in his day; that the prophets of Israel preceded the giving of the Law and laid the moral foundations for it, and that consequently much of the Old Testament history was legendary; that many of the Psalms were too highly spiritual for the time of David, and must be dated in the exilic period, or later; that the Book of Isaiah was a composite work by some nine or ten different authors and an unknown editor, since science forbade our belief in the miracle of prophecy; that Daniel was a fictitious work compiled about 130 years B.C., of which Daniel never wrote a line, and whose fictitious character was established not only by its pretence to prophecy but by its reference to certain musical instruments, and to a certain so-called king, Belshazzar, who never existed, and so on and so on. The time would fail me to tell of the discoveries of the excavators, and of the labours of the decipherers of the literature of Babylonia and Assyria, Palestine and Egypt. The Creation tablets, the Deluge tablets, the Tel el Amarna tablets, the Hammurabi stele and tablets, the Papyri of Elephantinē and countless other documents which have given

assurance to our faith and to the words of Him Who said, "They have Moses and the prophets, let them hear them," and added, "If they hear not Moses and the prophets neither will they be persuaded though one rose from the dead."

Thus the work of this Institute has shown us that a man may be a philosopher and a scientist without ceasing to be a Christian. It has served also to indicate that all the lines of truth converge and centre in Him who for 2,000 years has been giving incontrovertible proof of His Divine claims by the fact that He has been and still is the mightiest moral and spiritual force for the uplifting of mankind which has ever existed through all the ages, and will so remain for ever. Before Him we bow in reverent worship while we exultingly exclaim—

"THOU ART THE KING OF GLORY, O CHRIST."

The CHAIRMAN then invited Mr. J. W. THIRTLE, LL.D., M.R.A.S., to speak as to

*THE VICTORIA INSTITUTE AND ITS SERVICE TO  
THE CHRISTIAN FAITH.*

THE primary and fundamental purpose of the Victoria Institute, as set forth with precision at its formation in 1865, and reiterated from time to time during the past half-century of its history, has been (in one clause) the confirmation of the Christian Faith. Named after the noble Queen whose memory the nation will ever delight to honour, the Institute, while meeting the surgings of human thought from whatsoever quarter arising, has done so with a calmness that is born of faith in God, and a conviction that, in the person of the Lord Jesus Christ, the Infinite has been revealed to finite minds. In this spirit the Institute has scrutiized the philosophies of the ancients and examined the latest theories of speculative thought. The atmosphere has been one of fair and full and patient discussion; and again and again it has been found that, from all manner of material, the fire of criticism has yielded ideas, thoughts, and conclusions worthy of a place in the treasure-house of Truth.

Two general considerations demand such an organization as the Victoria Institute: (1) There is a tendency for Christianity, like other forms of faith and doctrine, to lose the

force of its appeal through sheer familiarity. (2) With the changes that are constantly involving human thought, there is a danger that the Christian revelation shall be regarded as a back issue, which, though it performed some service in days gone by, has been discredited by modern criticism. On both these heads the Institute has made emphatic utterance before the world.

On this first head, by "working over" the thought of the day—going beneath forms to principles—the Institute has shown that, speaking generally, truth is not dependent upon familiar phrases, however precious these may have become in individual experience. In other words, the old teaching may be expressed in modern terms, even as latest versions of the Sacred Books have shown that between Tyndale's Translation (sixteenth century) and the Revised Version (nineteenth century) the difference is one of form rather than of substance. On the second head—the tendency for the Christian revelation to be left in the rear by reason of the insistence and pushfulness of new theories—it has again and again been shown that the much-vaunted novelties have little or nothing to contribute to the volume of sound and ennobling thought. At the same time, the process of investigation has consistently yielded important results, showing that, far from being "back issues," the old books and the old doctrines are invested with a Divinely-implanted vitality which refuses to go down before impatient criticism. In other words, fair and full and dispassionate discussion has demonstrated the unique character of the Christian revelation, and shown that it is designed to be an abiding factor in the present world of flux and change.

The influence of the Institute may be judged from two considerations: (1) It has brought together a thoughtful body of Members and Associates—men and women to whom the things of God and Christ come as things that concern the mind as well as the heart. Needless to say, there are many excellent Christians who never trouble themselves with the grounds of faith, who never ask what is its warrant or justifying basis. Others, however, must concern themselves with these things, and must ask questions if only in order that they may be in a position to answer the same in the hearing of others. Here, generally speaking, we find the supporters of the Victoria Institute. They are so constituted—at least many of them, as their careers in literature well show—that they can only "receive to hold" that which, in some measure, has been commended to their reason and judgment. In the whole world of

thought nothing is foreign to the minds of such : everything makes its contribution to the general body of ideas which tend to establish the truth and add richness and strength to the considered faith of a Christian believer.

(2) The other general consideration which enables us to judge the influence of the Institute is found in the fact that, in the course of the past half-century, it has given to the world an encyclopædic body of constructive thought, on things human and Divine ; on the things of nature and revelation ; on the isms and sciences, ancient and modern ; and on many great scenes and passages of world history. In all, upwards of 250 scholars—men of outstanding culture and ability—have read papers, 580 in number, at as many ordinary meetings of the Institute. These papers have been, in fact, carefully prepared essays, many of them important and original contributions to human knowledge. The volumes of *Transactions*, giving discussions as well as papers, have gone into all lands, and are to-day consulted in the great libraries of the world. Moreover, they are constantly being quoted and referred to by writers on Christian Apologetics.

From which impressive facts, with the other considerations named, it is right to conclude that, in the breadth and depth of its work, the Institute has been true to its high purpose, and now enters upon its second half-century with a record of usefulness which, in a large degree, has commanded the blessing of Almighty God.

The CHAIRMAN asked the Ven. Archdeacon BERESFORD POTTER, M.A., to give an address on

### *THE RELATION BETWEEN SCIENCE AND RELIGION.*

SCIENCE and religion cannot conflict, because both are spheres in which the Divine Being reveals Himself. The laws of Nature are the laws of God ; and the unfolding of these laws must make God's ways more plain. The only conflict that can occur is between true science and untrue religion, or between untrue science and true religion, or where the science and religion are both untrue. True science reveals God, and dethrones untrue religion. This is a good thing, not a bad thing, for the world. The main point is that the untruth in religion should yield before the truth, as Pharisaism had to yield before our Lord's denunciations.

During the last fifty years several sciences have progressed towards truth, and led religion in the same direction.

The doctrine of Evolution has widened men's outlook on the world. It has cleared away many misconceptions. Now we understand why reason in animals resembles reason in man; why many animals come to have the elements of conscience; why the offspring of men and animals, in early stages of life, before birth, are so exactly alike. We come to look on man as the crown of creation, on Christ as the topmost stone. We see why our Lord so often appealed to lower forms of life to illustrate spiritual truth. Darwin, far from destroying faith, has widened and ennobled it. He has taught us that men lived possibly millions, not thousands, of years before Christ came; that God revealed himself before Judaism or Christianity to man; that Christ's religion does not stand alone, but is rather the highest peak among the lower summits of religious faith. It may be true that Darwinism was degraded as an instrument to destroy Christianity, as in the case of Nietzsche, but that is not the fault of Darwin, any more than our Lord can be charged with the burning of so-called heretics at the stake. Darwin did not say, nor believe, as Nietzsche implied, that natural selection was the only instrument of nature in evolving higher forms—he said exactly the opposite; nor did he, like Nietzsche, leave out everything except the material in forming a conception of higher types of men. He merely pointed out some methods apparent in Nature by which Deity develops things upwards, from the lower to the higher.

The higher criticism has also done much to eliminate error, and guide men to the truth contained in Holy Scripture; although, as is quite natural, in some of the developments of that science, serious and dangerous mistakes may have been made. But as one would not undervalue the glorious heritage of French liberty, because of the horrors of the Revolution, so we must not allow sane critics to suffer for the sins of unbalanced forerunners or contemporaries.

Criticism is saving us from the idolatry of text worship, an idolatry as dangerous to spiritual life as the worship of the golden calf. Men are now beginning to see that the Church of England was wise when she declared that Holy Scripture *contains* all things necessary to salvation, leaving it to be implied that it contains other things as well. Now we distinguish between the human and possibly erroneous medium in which Divine truth is contained, and the pearl of truth itself. We are content to believe that historically and scientifically the

thoughts and language of the writers of Holy Scripture may have erred, and yet that these contain invaluable Divine truth. Men now feel that they must use their intellects and consciences in discovering truth, instead of subordinating their intelligence to the hard and cruel dominance of the verbal infallibility doctrine, whether of scripture, creed, or Church. And it is an immense boon to be enabled to supply honest and straightforward explanations of difficulties, which, without the aid of criticism, were impossible honestly to explain, *e.g.*, why the father-in-law of Moses is sometimes called Jethro, sometimes Hobab, sometimes Reuel. Why the Sabbath is said in one place to have been instituted because God rested on that day from the work of creation ; in another (Deuteronomy v, 15), because the Lord God delivered the Israelites from the land of Egypt, and that "therefore He commanded them to keep the Sabbath day."

It explains such passages as Genesis xii, 6, where Abraham is said to have passed into Sichern, adding, "and the Canaanite was then in the land," from which we naturally infer that when this passage was written, the Canaanite was not in the land.

It explains the great differences in the accounts of Genesis i and Genesis ii and iii about the creation of the world, and the similar divergencies in the accounts of the Flood. We ought to be grateful for these things, and to recognize the boon of making the Scriptures so much easier to be understood.

Once more, archæology has done much to reveal God's truth, or at least to make it more plain. It has shown that the same conceptions which found expression in our scriptures had been current among Sumerians and Semites in earlier times. That these conceptions were a crude way in which the unscientific intelligence of the world expressed deep thoughts about God. We have learned now that the story of the making of man out of clay, and breathing life into him, was a Babylonian and Egyptian story as well as a Jewish one ; that the important element in it was the Divine agency at work, and not the particulars of the way in which it worked. Archæology tells us that the Flood story and the Creation story were current in Babylon in very early times ; that the code of Hammurabi was reported to have been given to him by Shamash, as that of Moses to him by Jehovah. Recent research tells us that Jehovah was known as a God among the Babylonians, as is made more clear in a recent book by Dr. Pinches, as early as 2000 B.C. : consequently that we may believe that at first he



was only regarded as a tribal God, but that gradually the Jews were led on to the nobler and truer belief in monotheism.

It seems to me, then, that everything which we have learned from science during the last fifty years has tended not to destroy faith, but to purify it. It has tended to banish fetishes, to clarify thought; to bring our faith into harmony with conscience, common sense, history, and reason. It has not destroyed anything valuable, but bestowed on us the boon of scattering the chaff to the four winds of heaven. Long may it stay there. It has brought out more clearly than was realized before that a moral and spiritual life based on the teaching and example of our Lord, and inspired by the Holy Spirit, is the one thing that "the Lord requires of us."

In conclusion, let me add that there may be some here who do not accept evolution, higher criticism, or the results in archæology which I have indicated. My object is not to raise any controversy on such matters, but to show that from the point of view of those who, like myself, recognize the above-mentioned results, true religion is advantaged and not injured by scientific progress.

The CHAIRMAN then invited Mr. WALTER MAUNDER, F.R.A.S., to make some remarks upon—

### *FIFTY YEARS' PROGRESS IN ASTRONOMY.*

THE VICTORIA INSTITUTE was founded fifty years ago, chiefly because some distinguished men had made the assertion that science and religion were at issue. This assertion itself demanded investigation, and the Victoria Institute was founded largely to secure that that investigation was unprejudiced.

The particular science in which I am myself interested was not specially concerned at the time to which we are now looking back. For it, the question had been thrashed out three hundred years earlier. Then Galileo, the founder of the new astronomy, had ventured to declare that the earth moved round the sun and that the sun was at rest. The old astronomy had asserted the contrary and, as was but natural, its adherents had believed that many texts of Holy Scripture supported their cosmological ideas. The world to-day accepts one of Galileo's doctrines, that the earth moves, and rejects the other, that the sun is at rest, and it does this quite irrespective of any belief or want of belief in the inspiration of Holy Scripture. Most

intelligent men of to-day would admit that to force this or that text into the controversy, whether on one side or the other, would be an act of intellectual perversity. The Psalm which we read in our Thanksgiving Service this afternoon tells us that "the going forth" of the sun is "from the end of the heaven, and his circuit unto the ends of it," but not the most ardent upholder of the doctrine of Verbal Inspiration would now contend that this text proved the Ptolemaic theory to be correct.

We were happily spared a repetition of this experience when the Galilean theory was accepted, for no one seemed to trouble to weave this into the scriptural fabric. Had it been otherwise, then, two hundred years later, when Herschel demonstrated that the solar system as a whole was in movement, we should have had again a so-called conflict between religion and science. The progress of astronomical science during the last fifty years has been removed from the sphere of religious controversy.

Nevertheless, the Council of the Victoria Institute has felt that it was important to have addresses from time to time on subjects of pure science, delivered by men who were themselves leading workers and authorities in the several departments which they expounded. In astronomy, I may mention among these, Sir Robert Ball, Sir David Gill, Dr. Andrew Crommelin, Dr. Sydney Chapman, Professor Alfred Fowler, Professor A. S. Eddington. That these men consented to address the Institute was an evidence of real sympathy with it; indeed the first two named were pleased to join it. Nevertheless, if we examine their addresses, we shall find there is no distinctively theological note, however sincere their acceptance of Christianity. Their business when they came to address us was not to preach a sermon, but to expound scientific methods and results.

There is profit in science. The sciences are clean and sane and healthy, and in that way are of immense service to mankind. But they are not religion, and the terms that are appropriate to religion are not appropriate when applied to science. It is inexact to speak, as some do, as to science being a revelation of God. It is not so: it is an enquiry by man into the handiwork of God; but God's handiwork is not God, and man's research into it is a very different thing from God's revelation of His own nature and character. It is inexact to speak, as some do, of the truths of science. Truth, strictly speaking, is an attribute of God; it belongs to personality, to character; not to the relation of thing to thing. We have a right to speak of the facts of science, the

conclusions of science. The great man of science whom France lost a few years ago, Poincaré, cousin of the President of the French Republic, said, "There are no true hypotheses in science; there are convenient hypotheses, and that hypothesis is the most convenient which best accords with the facts." There is no moral or spiritual superiority in holding one scientific hypothesis rather than another. The man who follows Galileo is not made thereby a better man than the man who follows Ptolemy: he may be better instructed or of better intelligence, but his superior knowledge does not bring him nearer to the Divine Image.

Is there then no advantage, for those special purposes which the Victoria Institute has in view, in the lectures and addresses which we have had from time to time from such leading astronomers as those whom I have mentioned? I think the advantage has been great. The progress of astronomy during the last sixty years has been so remarkable, so revolutionary, that it requires a very serious effort to realize the conditions that existed before. Sixty years ago, astronomy was limited to the repeated determination of the apparent positions of sun, moon and stars and planets, and by such repeated observations their movements were ascertained. Questions as to the composition and physical condition of the heavenly bodies were barely entertained.

How great is the difference now! The application of the spectroscope to the analysis of the light of the sun and of the stars founded what may be called Celestial Chemistry, and we have learnt to recognize many elements familiar to us here as existing not only in the sun, but in the distant stars. We have ascertained the temperature of the sun's surface to be about  $12,000^{\circ}$  Fahr., so that metals like iron, here normally solid, there always exist as glowing gases. The spectroscope has further enabled us to group the stars according to their temperature conditions, and they have been arranged in order of stellar evolution.

It is worth while noting that the word "evolution," which is so prominent in the philosophy of Herbert Spencer, has many different and independent meanings which are not as carefully distinguished as they ought to be. Stellar evolution practically means that a celestial body in the process of cooling undergoes changes of condition which are evidenced in its spectrum. Organic evolution, so intimately connected with the name of Charles Darwin, differs in its conceptions so widely from the ideas involved in stellar evolution that an astronomer and a

biologist when speaking of "evolution" are speaking in two different languages.

The spectroscope proved competent to attack a problem which had seemed for ever beyond our reach, namely the determination of the speed with which a luminous object is approaching or receding from us, and in this way we have learnt that many stars that, even in our most powerful telescopes, appear as single, are really double, the one star revolving rapidly round the other.

The application of photography to astronomy has immensely increased our knowledge. By means of the photographic plate we have been able to secure the positions of millions of stars, where formerly with the same expenditure of time and trouble we could barely have registered thousands. And from these new sources of information as well as from the further development of old methods, our conceptions of the stellar universe are growing continually in definiteness and magnificence.

Our old Scandinavian forefathers had their myth of a great Mitgard Snake, the Serpent of the Middle World, which encircled and upheld the universe. The old myth has its counterpart in the astronomical conception of the Galaxy, the convolutions of which encircle the whole sidereal universe so far as we can penetrate it. Stars of different orders of magnitude, stars of specific colours, stars of specific types of spectra, are distributed through space, not at haphazard, but with distinct subordination to the position of the Galaxy. So also with the different orders of nebulae and star clusters. So, more remarkable still, are those evanescent lights which occasionally burst out upon our view, the New or Temporary Stars.

The stellar universe is therefore *one*: one in the materials which compose it; one in the physical laws which condition it; one in the evident fact that it constitutes a single structure. And the evidence of its unity is bringing us to discoveries more remarkable still. Our conception of the scale of the sidereal universe is continually increasing; fifty years ago we knew of the distances of but a mere handful of stars; the nearest being a mere 250 thousand times the distance of the sun, and two million times the sun's distance was the utmost extent of our sounding line into space. Now we have secured indications, subtle and indirect and capable of much modification in the future, that hint at stellar distances one thousand times as great as the most distant which we were able to determine

fifty years ago. And one or two greatly daring astronomers have put on record their reasons for considering that even this limit must be exceeded a hundred times further still.

From these conceptions of immensity that dizzy and confound the utmost stretch of our imagination to apprehend, we are brought back instantly to the contemplation of a no less wonderful cosmos in the infinitesimal. I am old enough to have been taught when I was a boy at school that we knew two things, and two things only, concerning the atom: the first that it was indivisible, the second that it was immutable. To-day we know about the atom that it is not indivisible, but complex; that it is not immutable, but subject to change. And in part we have learnt that from the evidence afforded us by celestial chemistry. Helium was recognized on the sun before it was recognized on the earth; that was a striking achievement. Coronium and nebulium have not yet been recognized on the earth, but the lines of their spectra have afforded the indication of the way in which the constituent atoms of those elements are built up; a more striking achievement still.

Have these items of progress in our scientific knowledge and a thousand other items of progress, also made in the last fifty years, at which I cannot even glance, have these any bearing upon our knowledge of God, upon theology? Yes, they have. They teach the lesson which St. Paul preached two thousand years ago: "The invisible things of God from the creation of the world are clearly seen, being understood by the things that are made, even His eternal power and Godhead." The lesson is therefore no new one, but science brings it home to us with ever-increasing force and power. Science shows us in nature unity of material, unity of law, unity of structure and plan, and therefore unity of Creator and Lawgiver. And the vastness of the structure of the cosmos, and the unimaginable complexity and variety of its detail, and the indescribable finish and perfection of its most infinitesimal portions, justify the conclusion of the Apostle: "That His eternal power and Godhead are clearly seen by the things which are made."

Nor is this quite all. "God has not left Himself without witness, inasmuch as He has done us good and has given us rain from heaven and fruitful seasons, filling our hearts with food and gladness." God is good and doeth good.

So far natural religion can take us, but not further. And I would ask you to note the reserve, clearly marked in all the addresses of all the astronomers to whom I have referred, as to philosophical or theological inferences that some might

try to draw from the scientific facts which they laid before you.

There are two errors against which we should be on our guard. We may misuse God's revelation to us in Holy Scripture, which was given for our instruction in righteousness, by using it as if it were for our instruction in the physical sciences. We may misuse the book of nature which was given us for our enquiry, for our intellectual development and our material help and comfort, and may use it as if it were a key to that knowledge of God which is everlasting life, which lies only in Himself and in Jesus Christ, Whom He hath sent. The first school would render to God the things which are Cæsar's; the second to Cæsar the things which are God's. Be it in the future, as in the past, the work of the Victoria Institute to insist that we render to Cæsar the things that be Cæsar's, and to God the things that be God's.

The CHAIRMAN then called upon the Rev. H. J. R. MARSTON, M.A., to deliver an address upon

*THE ADVANCE IN THE KNOWLEDGE OF THE  
GREEK TESTAMENT, MADE IN THE LAST  
FIFTY YEARS.*

ABOUT three years before the inception of the Victoria Institute, J. B. Lightfoot published his famous edition of St. Paul's Epistle to the Galatians. B. F. Westcott had already some years earlier published writings on the Bible. Henry Alford finished his valuable career of honest and faithful work on the elucidation of the New Testament a few years after the Institute began its career. F. J. A. Hort was occupied with similar tasks during the years which mark our era. Dr. Moulton was a contemporary scholar; and later the names of Sanday, Headlam and Meyer became famous. Meyer among the Germans, and Godet in Switzerland, must be mentioned as illustrating how wide an interest was spread over the Christian Church in the work of exact scholarship in the department of the Greek Testament. The principle which governed the investigations and researches of these eminent men was that of a belief in the sacred force of words. The splendid Cambridge triad in particular had learned from their great teacher, Prince Lee, the value of language when employed by a master mind with honesty and sincerity. They had been

disciplined in the doctrines of Hermann, that "language is the image of thought; and that whatever is impossible in thought is impossible in language."

It may be said that the result of their labours has been to enable us to understand the New Testament in a way that has not been possible to the same degree since the days of the Apostolic writers themselves.

To me the principles on which these great scholars have worked appear to offer some important suggestions. The first is: that on these principles may be raised a reasoned and sober theory of verbal inspiration. Secondly: the method and the spirit of these scholars disposes me to look with scepticism on many of the conclusions of the Higher Critics. A reverent treatment of the very words of Scripture such as these scholars manifest, and a close adherence to the text, is a strong prophylactic against the lawless and romancing spirit too often characteristic of the mere Higher Critic, so called.

Thirdly: the same considerations lead to a rigorous attitude towards the school of what I may call "papyrology" as ably represented by Dr. Moulton, of Didsbury. I learn from Lightfoot and Westcott to treat St. Paul and St. John with scientific and scrupulous reverence in their very language. I cannot, therefore, regard the language of the Apostles as a patois such as may be interpreted by fragments of stray documents picked up among the debris of Asia Minor or the valley of the Nile.

The language of the New Testament is Greek, not a jargon of cooks and apothecaries, without law or stability.

The CHAIRMAN asked Mr. JOSEPH GRAHAM to speak, and in response he urged upon the Meeting the great importance of a diligent study of the Holy Scriptures and a reverent attitude towards them.

The CHAIRMAN: After this series of admirable addresses I have only one thing further that I wish to say, one thing that impresses me more and more as I get older. Remember that the past belongs to us old men, the future belongs to the young. Take care that the young are encouraged and brought forward to do the work and take up the charge which is falling from our hands.

The Rev. Chancellor LIAS, M.A.: Ladies and Gentlemen, if you have listened as I have for the last hour and a half to a series of most interesting, most intelligent and helpful addresses, I am sure

you will heartily accord a vote of thanks, first to our Chairman for his charming opening, and then to each one of the speakers. It would be invidious for me to distinguish between them. I hope those here who are not yet members or associates of the Institute, having had a sample of what the Institute does, how it thinks and how it works, will come forward and join us as soon as they can. I have great pleasure in proposing a vote of thanks to the Chairman and speakers.

The Rev. Prebendary H. E. Fox, M.A., seconded the vote, which was carried with great applause.

The CHAIRMAN : I can only thank you for coming in such good numbers and for your attention and appreciation of the addresses.

Professor H. LANGHORNE ORCHARD : I am sure we should not like to separate without another vote of thanks, and that is to our Secretary. It is not too much to say that he is worthy of the line of secretaries who preceded him, and the success and prosperity of this Society is very much due to his foresight and never-failing diligence. He has conducted this Meeting under great difficulties, and with what success we can testify. (Applause.)

The SECRETARY : I beg to thank you, Mr. Chairman, Ladies and Gentlemen, for the very kind way in which you have greeted me this afternoon. I may say I felt rather taken aback a few days ago when first one thing and then another went wrong, but the way in which the Council has supported me in the arrangements I had to make and has fallen in with my suggestions has taken all the trouble off my shoulders. I feel much happier than I did a few hours ago. Our next Meeting will take place in the usual room at the Central Buildings, on Monday week, June 5th, when Professor Hull will give an address on "The Tides."

The Meeting adjourned at 6.5 p.m.