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branches of human knowledge and belief. I will not detain you longer, because you have yet to hear an interesting address from Professor Hull, whom I now call upon.

The following Address was then read by the author :—

NOTES ON SOME OF THE RESULTS ARRIVED AT BY MEMBERS OF THE EXPEDITION SENT OUT BY THE COMMITTEE OF THE PALESTINE EXPLORATION FUND IN 1883-84 TO ARABIA PETRÆA AND WESTERN PALESTINE. By EDWARD HULL, LL.D., F.R.S., &c., Director of the Geological Survey of Ireland.

I HAVE much pleasure in complying with the invitation of the Council of the Victoria Institute to bring before them some of the results and conclusions arrived at by the members of the expedition, sent out in 1883-84, by the Committee of the Palestine Exploration Fund, for the purpose of making a geological *reconnaissance* through Arabia Petræa and Western Palestine. Referring for fuller details to the narrative of the Expedition,* and to the memoir on the physical geology of the region traversed,† I shall endeavour in this communication to give a short account of the leading physical features and geological structure of this remarkable section of our globe; nor will it, I should hope, be considered out of place if I make occasional reference to some of the great historical events connected with special localities, and their bearing on Biblical literature.

The region to which my observations will be directed is bounded by clearly-defined limits, having the Mediterranean Sea, and the Isthmus and Gulf of Suez on the west; the Red Sea on the south; and the great Arabian and Syrian deserts on the east. It includes the remarkable depression of the Jordan-Arabah valley, which, commencing on the north at the western base of Mount Lebanon, in Cœle Syria, ranges southward along the line of the Jordan; and, being continued to the south of the Dead Sea through the Wâdy el Arabah, passes at Akabah into the Gulf of that name—a total length of 400 miles if we include the Gulf itself. It was one of the special

* *Mount Seir, Sinai, and Western Palestine; being a Narrative of a Scientific Expedition, 1883-84.* (Bentley & Son, London. 1885).

† *Memoir on the Physical Geology and Geography of Arabia Petræa, Palestine, and adjoining districts* (1886).

objects of the Expedition to determine the nature and mode of formation of this long line of depression, which, at the borders of the Dead Sea, descends to a depth of 1,292 feet, below the surface of the Mediterranean, as determined by the officers of the Ordnance Survey of Palestine.*

The route taken by the Expedition may be briefly described as follows. On leaving Egypt, we entered the "Desert of Etham," and took a southerly course from "Moses' Wells" (Ayun Musa) by the Wady Gharandel (probably Elim of the Exodus), after which we turned towards the eastward by the valleys Suwig, Nasb, Kamileh, and others, and finally camped by the Wady es Sheikh, near the base of Mount Sinai (Jebel Mûsa). Having ascended the Mount (from the summit of which, 7,373 feet above the sea-level, Colonel Kitchener made a series of triangulations), we recommenced our journey by the Wadies Zelegah and El Ain to Akabah (the Elim or Elath of the Bible†). Here we parted with our escort, the Arabs of the Towâra tribe, and entered into a contract with the head sheikh of the Alowîns for an escort and camels to conduct us along the Arabah valley to the southern shore of the Dead Sea (Bahr Lût). On our way we had an opportunity of visiting the ancient city of Petra, and of ascending Mount Hor (Jebel Haroun), the altitude and geological structure of which we determined. After an encampment of eleven days at Es Safieh, on the southern shore of the Dead Sea, and having made excursions into the Moabite mountains, we traversed southern Palestine, by Beersheba, to the coast at Gaza, where we had to undergo quarantine for five days. Then continuing our journey to Jaffa by the coast road, we proceeded to Jerusalem, from which we made expeditions to the Jordan Valley, Bethlehem and Solomon's pools, and the gorge of the Kedron at Mar Saba. Finally we took ship at Jaffa, and returned home by Beyrût, Cyprus, Smyrna, Constantinople, and the Danube route. The actual survey occupied a period of about nine weeks, of which six were done on camels, the remainder on horseback.

Physical Features.—The region now described naturally separates itself into five districts, each contrasting with those adjoining in its features and geological structure.

1. The first is the maritime district, stretching from the

* Russegger made the level 1,341 feet, a very close approximation. The fact that the level of the Dead Sea is so far below that of the Mediterranean was first ascertained by H. von Schubert and Prof. Roth, in 1836.

† Deut. ii. 8. Ezion Geber probably stood near the head of the Gulf opposite Elath.

Isthmus of Suez along the coast to the base of Mount Carmel.

2. The second includes the table-land of Western Palestine and the Desert of the Tih (Badiet-et-Tih).

3. The third is the line of depression of the Jordan-Arabah valley already referred to.

4. The fourth is the elevated table-land of Edom (Mount Seir) and Moab, stretching eastwards into the Syrian and Arabian Deserts.

5. The fifth is the Peninsula of Sinai, lying between the Gulfs of Akabah and Suez, and to the south of the table-land of Badiet-et-Tih.

(1.) The maritime district is in some measure a continuation of the plain of Lower Egypt. It has an average elevation of about 200 feet, and is largely formed of sands and gravels, with shells now living in the Mediterranean waters adjoining. These and other deposits evince that the land has been upraised to an extent of over 200 to 300 feet within very recent times, commencing with the Pliocene and coming down to the post-Pliocene epochs. A remarkable coast-line—first discovered by Oscar Fraas amongst the Mokattam hills near Cairo, at a level of 220 feet above the Gulf of Suez—has been recognised also in several places by the members of the Expedition in the Arabah Valley and Southern Palestine, and is also represented in the coast districts of Syria and Cyprus. In consideration of the recent period of this partial submergence, I have suggested that at the time of "the Exodus" the land had not fully regained its present level; and that, consequently, the waters of the Gulf of Suez extended as far north as the Great Bitter Lake, forming an arm of the sea, across which the Israelitish host had to make their passage in the miraculous manner recorded in the Bible. Such a view is in accordance with the evidences of submergence to be found all along the line of the Great Canal.

At the period of greatest depression—which Dr. Schweinfurth, Sir J. W. Dawson, and the author concur in considering to be that of the Pliocene—Africa became an island, and the plain of Lower Egypt was covered by the waters of the sea, which sent an arm up the Nile valley as far as the First Cataract. In the geological memoir already referred to the author has given a sketch map representing the relations of land and sea during this period.*

Along this maritime tract runs the high road between

* *Supra cit.* Sketch Map, page 72, showing the position of land and sea during the Pluvial period.

Egypt, Palestine, and Syria, connecting the former country with Jerusalem, Damascus, Jaffa, Tyre, Sidon, and the Lebanon. It has been trod by the iron heel of war from the days when Rameses II. led his hosts against the Hittites of Mount Lebanon, down to the end of the eighteenth century, when Napoleon retired, baffled and repulsed, from the walls of St. Jean d'Acre (December, 1799). The road generally lies inside a line of high sandhills, which are constantly advancing like a devastating wave on the land, with slow but certain steps. It is supposed that the Gaza of the time of Sampson is buried beneath the sands.

(2.) The tableland of Western Palestine rises somewhat abruptly from the maritime tract on the west, and generally terminates along the borders of the Jordan Arabah depression by ranges of bold cliffs, intersected by deep ravines. The tableland is formed of Cretaceo-nummulitic limestone, disposed in the form of an arch, the axis of which ranges in a general north to south direction, passing under the city of Jerusalem, and southwards by Hebron and Tell el Milh. Towards the south, and beyond the borders of Judah, the arched position of the limestone appears to alter, and the strata become spread out into low undulations, not yet properly determined, over the wide expanse of the Badiet-et-Tih, or "Desert of the Wanderings." This plateau is intersected by dry valleys, and breaks off along a line of escarpment, which, commencing east of the Bitter Lakes, ranges in a southerly direction for about 150 miles, and then, bending round towards the east at Jebel el Ejmeh, ultimately reaches the western margin of the Arabah valley near the head of the Gulf of Akabah.

The average elevation of the tableland of Western Palestine may be taken at 2,500 feet above the sea, but the hills rise to 3,000 feet and upwards. The elevation of the Temple area at Jerusalem is 2,593 English feet. A line of watershed runs along this tableland, dividing the streams which enter the Mediterranean from those which find their way into the Jordan valley. The greater depth of this latter outlet above that towards the western side causes the streams which enter the Jordan and Dead Sea to fall with remarkable rapidity. Thus the stream of the Wâdy el Aujah has an average fall of 280 feet per mile. The Kelt (supposed to be the brook Cherith) has a fall of 190 feet per mile, and the stream of the Wady el Nar (Kedron) a fall of 264 feet per mile. This rapid descent accounts for the great depth to which these streams have cut down their channels; as the force of the water, at a time when the channels were copiously supplied, must have been unusually powerful.

A very ancient road follows closely the line of the watershed, along which most of the towns and villages, such as Shechem (Nablous), Nain, Sychar, Bethel, Jerusalem, Bethlehem, and Hebron have been built. Such a line of communication, and such sites, were a physical necessity in a country where the central ridge is so deeply intersected by ravines penetrating from opposite directions. By this road the Patriarch Abraham journeyed southwards towards the Plain of Mamre,* on the border of which stands Hebron, except Damascus, the most ancient inhabited city in the world.

(3.) The line of the Jordan-Arabah depression has already been referred to, and has been so fully described by travellers that little need here be added regarding its physical features. The Ghor—or hollow—in which lies the Dead Sea is terminated along the south by cliffs of marl and gravel about 600 feet high; these beds form the floor of the Valley of the Arabah southwards as far as the Ain Abu Werideh—a distance of forty miles from their northern margin along the Ghor. The level of these marls at Ain Abu Werideh is a little over that of the Mediterranean; and, as there can be no doubt that they were formed over the floor of an inland lake which must have stood at this level, it is concluded that the waters of the great Jordan-Valley Lake once rose to, at least, 1,300 feet above its present surface, and occupied the whole valley from the Ain Abu Werideh to the Lake of Huleh (or Merom), a distance of 200 miles from north to south. The evidence thus adduced for the former great size of the Jordan-Valley Lake does not rest on observations made at the southern extremity only, but is borne out by similar phenomena observed at the northern extremity. Thus we find terraces on both sides of the Ghor (of which Jebel Usdum and the Lisan are fragments) at levels of 600 feet above the present surface; and near the margin of the Sea of Tiberias Dr. Lortet has recognised a terrace formed of gravel, with rolled pebbles, occupying a position south-east of Safed. This terrace is as nearly as possible at a level with that of the Mediterranean. Hence Dr. Lortet has inferred that the waters of the Sea of Tiberias formerly stood at that level. This terrace near the northern margin corresponds with that of Ain Abu Werideh at the southern margin of the ancient lake, which has since shrunk back into three fragments connected by the stream of the Jordan.

The expedition succeeded in establishing by observation in

* Genesis xii. 8, and xiii. 18.

the Arabah Valley, what had been surmised by former observers, that the Jordan-Arabah depression is due primarily to a great fault, or fracture, of the strata, running generally along the base of the Moabite and Edomite hills, along which the strata have been displaced; those on the west having been relatively lowered with reference to those on the east, to the extent of 1,000 feet and upwards.* On this account it is that the Nubian sandstone formation appears along the eastern side of the Ghor, but never on the western, that side being formed of Cretaceous limestone; while, in the southern part of the Arabah Valley, the eastern side is formed of still more ancient crystalline rocks. The elevation of the low saddle or watershed which crosses the Arabah Valley from side to side was also determined to be about 700 feet at a distance of forty-five miles from the head of the Gulf of Akabah; and I came to the same conclusion as Professor Lartet, that the waters of the Jordan never flowed into that gulf, but that, on the contrary, ever since the land emerged from the ocean, there had been a continuous ridge separating the waters on either hand.†

I have endeavoured in the *Geological Memoir* to trace the succession of operations and events by which the Jordan-Arabah Valley has been formed, and must content myself here with stating that, as the whole region was under the bed of the sea down to the close of the Eocene period, the elevation of the land, together with the development of the main physical features, may be referred to the succeeding Miocene—a period remarkable for physical disturbances and great denudation of the strata over the European continent, and the adjoining parts of Africa.

(4.) The formation of the table-land east of the Jordan-Arabah depression was a necessary result of the physical operations by which this depression itself was formed. The strata which were lowered on the west, were elevated on the east, side of the great fault, and have been converted into a high table-land with an average level of 5,000 feet

* This view has been advanced by Tristram, *Land of Israel*, and Lartet, *Géologie de la Mer Morte*, but the actual line of fracture had not previously been traced along the Wady el Arabah.

† In a recent review of the *Geological Memoir* in the *Saturday Review*, April 17, the writer advocates the view that a river originally poured its waters into the sea on the site of the present Gulf of Akabah, and that the depressions and ridges crossing the valley are due to movements of the crust which took place subsequently to the north and south faulting. This view has been deliberately rejected by both Dr. Lartet and myself, for reasons which I have fully explained in the July number of the *Quarterly Statement P. E. F.*

above the sea in the Edomite district, or 4,000 feet in that of Moab. The upper surface of this table-land is formed, throughout the greater extent, of Cretaceous limestone resting on Nubian sandstone, and this again on ancient crystalline rocks which form the basis of the whole region, and emerge from beneath the Nubian sandstone on approaching the head of the Gulf of Akabah from the north. The ancient city of Petra, whose temples, palaces, theatres, and tombs are hewn out of the solid sandstone rock, *in situ*, lies in the heart of the mountains of Edom, and was visited by the members of the Expedition. The summit of Mount Hor (Jebel Haroun) was also reached, and its elevation of 4,580 feet above the sea determined. This point, which commands a view of the Ghor, the hills of southern Palestine, and those of the Peninsula of Sinai, was made by Colonel Kitchener a principal trigonometrical station.

The Valley of the Arabah has been for ages the line of communication between Syria, Palestine, and the great Arabian Peninsula. Along this valley the Israelites, on being refused a passage through the territory of the King of Edom, retraced their steps from Kadesh Barnea and Mount Hor, and crossing the mountain range by the pass of the Wâdy el Ithm skirted Mount Seir on their progress northwards to the table-land of Moab. Along this line of march also, at a later period, the Queen of Sheba may be supposed to have journeyed from her territory at the head of the Persian Gulf, when she visited King Solomon, and, having crossed the Desert of Arabia, took the line of the valley from Elath northwards to Jerusalem. By the same line Solomon kept up his communication with the port of Ezion Geber,* which Leon de Laborde has, with every probability, identified with the Island of Jazirat Farûn—off the Ras el Musry—at the western side of the Gulf, opposite Akabah. The only existing remains on this island are considered to belong to the period of the Crusades.

(5.) The fifth and last physical district, the Peninsula of Sinai, is by far the most striking, from the grandeur and loftiness of its mountains, their sharpness of outline, and the depth of the colouration of the rocks, in which red and purple colours prevail. It thus presents a marked contrast to the table-land of Badiet-et-Tih, and of Southern Palestine to the north, where the nearly horizontal beds of limestone give rise to terraces, with prevalent grey or yellow colours, except where clothed with herbage. The physical features of this region

* 1 Kings ix. 26.

have been so fully described, especially by the late Professor Palmer, Sir Charles Wilson, Oscar Fraas, De la Borde, Dean Stanley, and others, that little need be added here. From the summit of Mount Sinai Colonel Kitchener was able to take the bearings of numerous points with the theodolite, and thus to connect the triangulation of the Peninsula with that of Southern Palestine along the Arabah Valley. The magnificent survey of the Sinaitic Peninsula by the officers of the Ordnance Survey had left little to be desired. Where it terminated towards the Gulf of Akabah it was taken up by the members of our Expedition, and the result is an elaborate map of the Valley of the Arabah, from the head of the Gulf of Akabah to the shores of the Dead Sea. And in a reduced copy of this map (on a scale of six inches to the English mile) I have inserted the geological details with as much accuracy as our reconnaissance would permit.*

The rocks of the Sinaitic mountains, including Jebel Serbal, are formed chiefly of granite, gneiss, various schists, invaded by porphyry and other igneous rocks. It is probable that these represent the oldest formation of the globe, known to geologists as "Archæan." Traced westward beyond the shores of the Gulf of Suez, they form much of the mountainous tract between the Red Sea and the Valley of the Nile, where they reappear, rising from beneath the Nubian sandstone at Assuan.

In the Sinaitic Peninsula the crystalline rocks are overlain in certain directions by Carboniferous beds, originally discovered by Mr. Bauerman in the Wâdy Nasb, and visited by the members of the Expedition. These consist of red sandstone and conglomerate, overlain by limestone with numerous shells, crinoids, and corals, identical with, or allied to, those of the Carboniferous beds of Europe and the British Isles. Numerous specimens of these fossils were collected and brought home for determination, and have served to place beyond doubt the geological age of the strata in which they occur.†

Throughout the Sinaitic Peninsula, evidences of the former existence of lakes and chains of lakes were not infrequent in the occurrence of deposits of marl, beds of gravel and sand forming horizontal strata over some of the plains and valleys. It was also clear that at a former period the now waterless valleys had been occupied by large, and probably

* The preparation of this map was undertaken by Mr. Armstrong (formerly Sergeant-Major, R.E.), of the Ordnance Survey of Palestine.

† The determinations were made by Prof. Sollas, of Dublin University, and are given in the Memoir, p. 48.

perennial, streams, as old river terraces were found rising several feet above the present beds of the valleys. The presence of such terraces is not to be altogether accounted for from the occurrence of occasional thunderstorms (or "seils" of the Arabs), which in winter burst upon the mountains, and send down great torrents of water. In traversing the remarkable gorge of the Wâdy el Ain, we had occasion to observe the effects of such floods in piling up boulders, shingle, and drift-wood at the headings of the valley.

Recent changes in the climate of Arabia Petrea and Palestine.
 —This brings me to the last point which it is necessary to refer to in this communication, namely, the evidence of a former climate more closely resembling that of central Europe and the British isles. Although part of this region is generally regarded as rainless, this is not exactly the case, as a little rain, generally accompanying thunderstorms, falls in the winter time, and the summits of the Sinaitic mountains, according to Sir Charles Wilson, have a capping of snow for a short period, from which the perennial springs are fed. But the climatic conditions must have been very different from the present only as far back as the Glacial epoch, when glaciers descended the valleys of Lebanon to a level of 4,000 feet above the sea. As Sir J. D. Hooker has shown, the grove of the venerable cedars decorates the surface of an ancient moraine which was thrown across the valley, and was formed at the end of a glacier which descended from the snowfields above. It may be supposed that at this epoch the annual mean temperature of Palestine and Syria was 25° Fahr. lower than at present, and that the rainfall was very considerably in excess of the present amount.

The melting of the snows on the Lebanon, and the large amount of rainfall may be considered as a sufficient reason for the high level at which the waters of the Jordan-Valley lake formerly stood, and for the size and depth of many of the old river valleys, such as those of the Zelegah and El Ain, in the Sinaitic Peninsula. I have also ventured to suggest the probability that during this epoch the volcanic fires of the Jaulan and Hauran were still in activity, the waters of the great lake, finding access through the faults and fissures of the Jordan Valley, having supplied the steam-power (so to speak) now generally recognised as a necessary agent in volcanic explosions. If this be correct, then we may further assume that with the drying up of the waters and their recession into their comparatively narrow bounds, such as they now occupy, the volcanic action concomitantly subsided, and ultimately

died out. Thus there may be said to have been a secondary connexion between meteoric and volcanic phenomena.

The effects of the humid climate must have remained for a long time after the humidity itself had diminished. These effects would appear in the luxuriousness of the vegetation, and in the presence of extensive forests, of which hints are afforded in passages in the Old Testament and in other writings.* The cutting down of the forests and neglect of planting have probably greatly contributed to the present dryness of the climate; while the soil has been washed down from off the hill-sides, which present a remarkably bare and rocky aspect over a large part of Central Palestine and Arabia Petræa. Planting and irrigation would undoubtedly go far to restore to Palestine its former character for fruitfulness.

The natural flora of Palestiné and its borders is known to be remarkably varied; and, in consequence of its peculiar physical features,—the elevation of its hills and table-lands, and the depth of its valleys,—this country seems adapted for almost every kind of vegetable product. Tropical plants find a genial habitat in the Jordan Valley, while the hillsides offer a fitting climate for sub-tropical and temperate forms, and for the planting of forests. In Southern Judæa, thousands of acres of rich soil, adapted for the growth of wheat and other cereals, lie uncultivated and afford only pasture for the small flocks of sheep and goats of the Bedawin. When riding over these great expanses of pasture-land, once thickly populated, now almost without inhabitant, I often thought, What more favourable home for industrious colonists could be found in any part of the world?

[Professor HULL added that he had been asked whether the geology of the district affords grounds for believing that the river Jordan discharged its waters into the Gulf of Akabah prior to the formation of the depression alluded to in the address. He desired to say that the question was one on which he had a very strong opinion, and one which he had had to defend recently against a writer in the *Saturday Review*. He believed that from the time that region was elevated out of the sea the waters of the Jordan never flowed into the Gulf of Akabah. There was at the beginning, in his opinion, a lake which had its limits towards the south in the region of the Arabah Valley and the waters never flowed further, there being always an excess of evaporation beyond supply in that district.]

* Theophrastus, *De Hist. Plant.*, lib. ii. cap. 81; Pausanias, lib. ix. c. 19; Horatius, *Epist.* l. ii.; Pliny, lib. xxiii. c. 4, &c.

Sir H. BARKLY, G.C.M.G., K.C.B., F.R.S.—I rise for the purpose of proposing, "That our best thanks be presented to Professor Hull for the Annual Address now delivered, and to those who have read papers during the session." The recommendation of the first part of this resolution to the members of the Victoria Institute requires very few remarks from me. The learned director of the Geological Survey of Ireland has rendered his description of the country through which he has travelled in Arabia Petræa and Western Palestine so interesting and instructive, and has also added so greatly to the charm of his lecture by delivering his remarks extemporarily, and illustrating them by the diagrams he has put before us, that he has fairly riveted the attention of all his hearers from the beginning down to the very end of his Address. In fact, I am sure that many of us will not feel satisfied until we have heard a little more about the matter, and are in a position to read the published account of the scientific expedition to which he has referred us. With regard to the other gentlemen who have read papers during the year, I will only say that our thanks are justly due to them, and, considering the late hour at which we have arrived, I will now conclude by at once moving the resolution I have read.

Mr. SAMUEL SMITH, M.P.—I have great pleasure in seconding this resolution, and in doing so I must say that it has afforded me much gratification to listen to the Address just delivered. The scenes referred to by the learned Professor are familiar to myself; and I may add, that it is only two months since I passed through the Suez Canal, and discussed with the intelligent captain of the vessel in which I was, some of the topics to which the lecturer has referred. That officer had devoted a good portion of his life to surveying the district connected with the Exodus, and he seemed to have arrived at the same conclusion as the learned Professor—namely, that the point of the Red Sea at which the children of Israel crossed was not where the Gulf of Suez is now, but one further removed from the sea. According to the captain's theory, the Red Sea must then have filled up a considerable portion of the district now lying between it and the Mediterranean. I was very much interested in the remarks made by Professor Hull in regard to the extraordinary depression of the Jordan-Arabah Valley. The matter is one that has always excited wonder; but I think the explanation that has been given to-night is one that fully commends itself to one's common sense and judgment. It must have been the site of a great lake, which has gradually disappeared in consequence of the great physical changes to which reference has been made. When I was out in that part of the world, in the month of May, the heat surpassed in its intensity anything I have ever experienced in any other place. Nothing could exceed the sterility of the district—there being scarcely a vestige of vegetation—with the exception of a small belt of foliage along the banks of the Jordan; but, as we all know, there was a time when that district was the abode of a large population, although, through the changes alluded to, the climate has reached its present condition. I think I may truly say that we have all derived much informa-

tion from the interesting Address we have had the opportunity of listening to to-night.

The resolution was then agreed to, *nem con.*

Professor HULL, F.R.S.—On my own part and that of those who are also included in the vote of thanks just passed by the meeting, I have only to say that we are much obliged to Sir Henry Barkly for moving, and to Mr. Samuel Smith for seconding, as well as to the members present for accepting, this resolution. It has afforded me very great pleasure to offer the remarks I have put before so appreciative an audience.

Rev. A. I. M'CAUL, M.A.—I have now to move, "That the thanks of the meeting be presented to the President." We must all have felt much pleasure and gratification in hearing that our distinguished President will be with us as much as he is able, having regard to his other duties.

Mr. H. CADMAN JONES, M.A.—I have much pleasure in seconding the resolution. I am sure it is a source of great satisfaction to the Society that we have obtained so distinguished a successor to the late lamented nobleman who for so many years was our President. The Earl of Shaftesbury was very fond of saying, at our annual meetings, that he ought to give place to some one else; as he was not himself a scientific man. Nevertheless, I always felt that there was a peculiar fitness in his being our President, as he was one whose whole life was a proof that, when we are fighting for the truths of Revelation, we are not fighting for a mere bundle of ideas, but for that which is to regenerate the world. His religion led him to set the noblest example of self-denying exertion for the good of others, and he rightly filled the place he held at the head of this Institute. We have now the pleasure of welcoming to that position a man of high scientific reputation—one whose name is known, not only throughout Europe, but, I may say, all over the world, as a man of science; and his accepting the post is a proof that belief in Revelation is consistent with the highest scientific attainments. I welcome him the more heartily because we are old friends, having been at Cambridge together, and forty-five years ago, we were struggling to see which of the two should win the object of ambition most coveted by Cambridge men. I have much pleasure in thanking him for coming here and accepting the position of our President.

The resolution having been carried by acclamation,

The PRESIDENT said:—I rise to return thanks for the kind expressions that have been used towards me, and to say that I hope, notwithstanding my other engagements, I shall, at any rate, have some time to give to the affairs of this Institute. I will not detain you longer at this late hour.

The members and their friends then adjourned to the Museum, where refreshments were served.