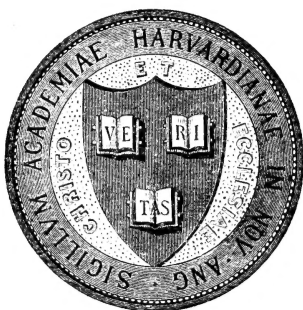




HARVARD UNIVERSITY.



LIBRARY

OF THE

MUSEUM OF COMPARATIVE ZOOLOGY

12005

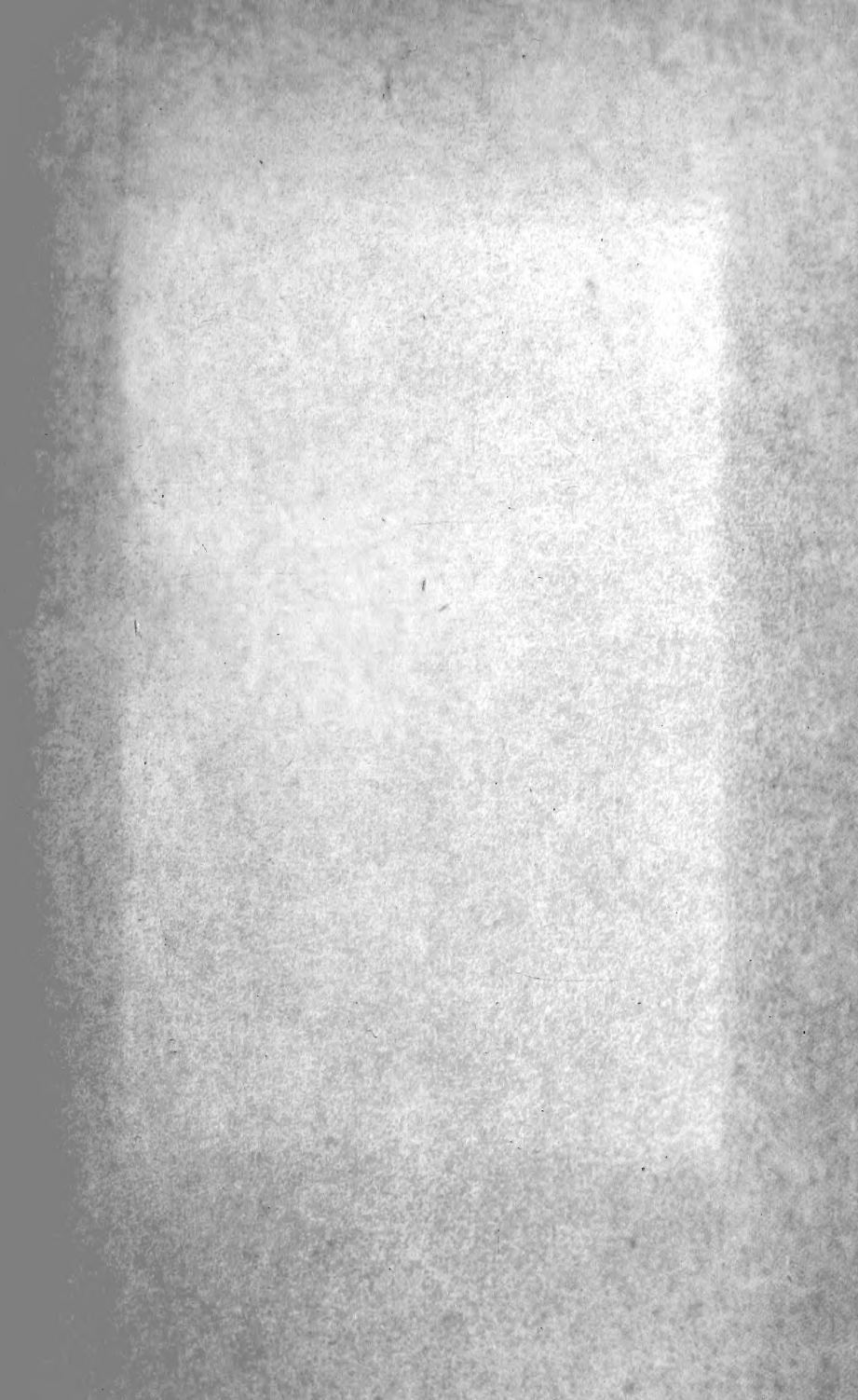
Exchange

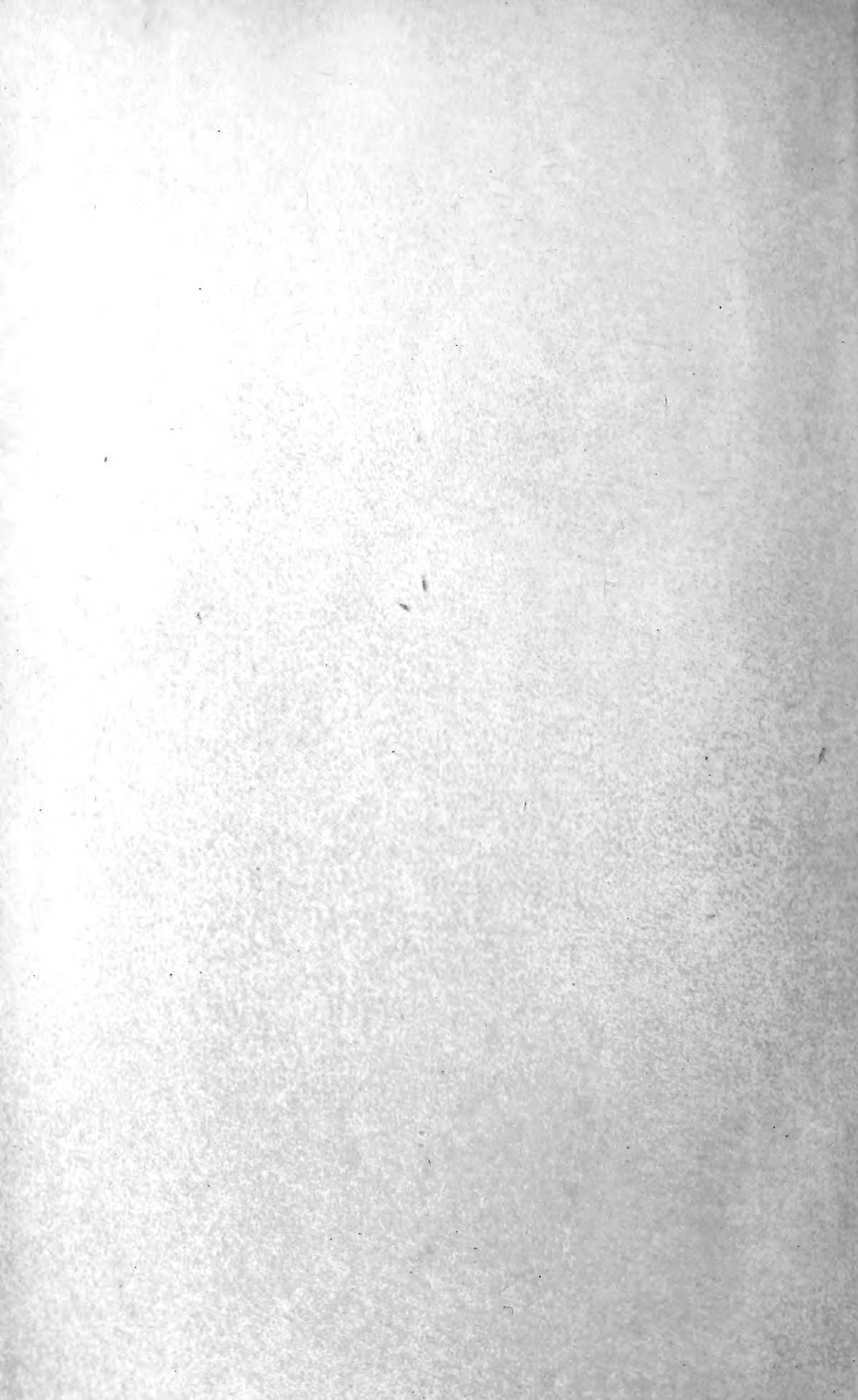
August 16, 1921.

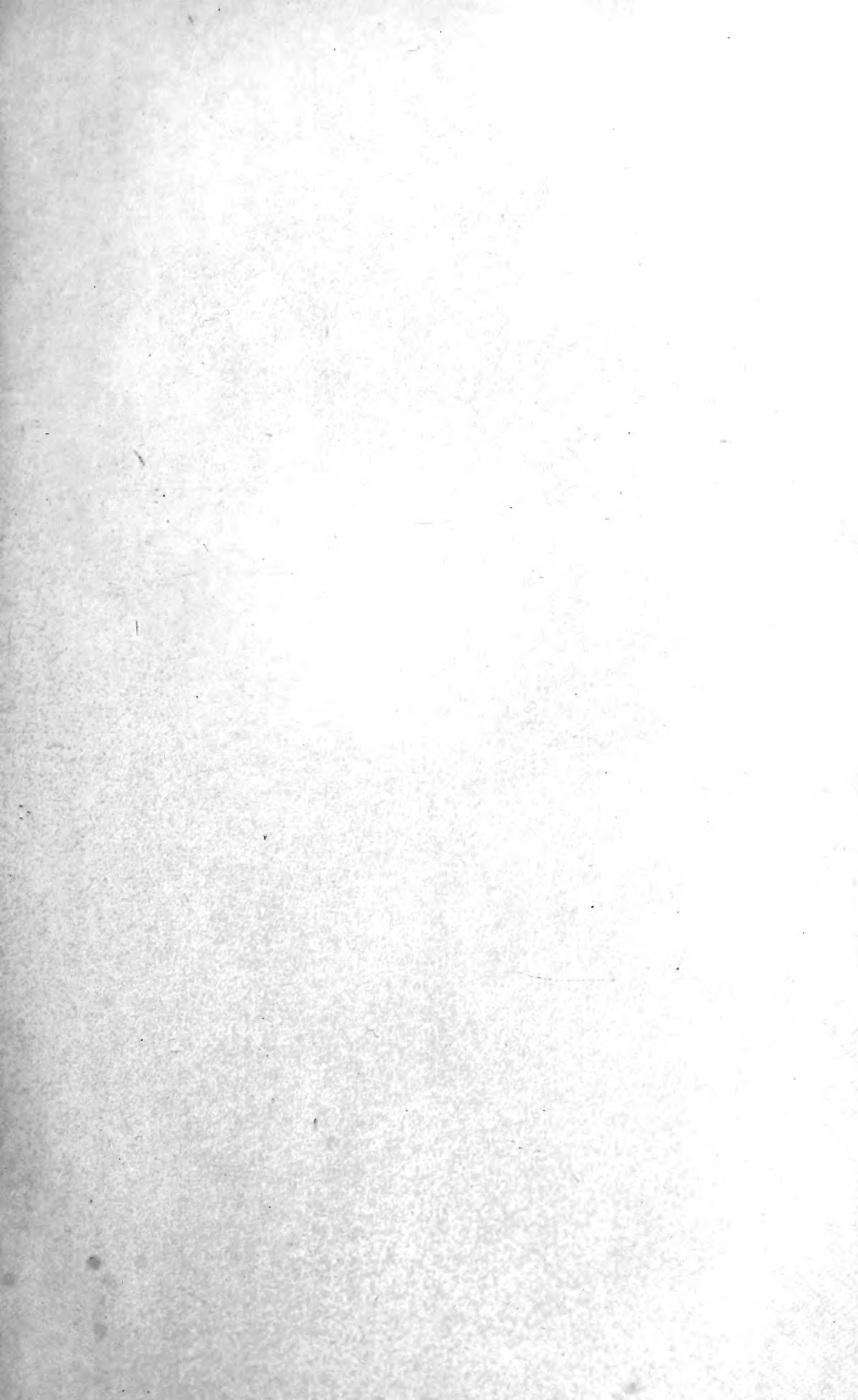














*J. G. Helliday &*

JOURNAL OF THE TRANSACTIONS  
OF  
THE VICTORIA INSTITUTE.

—  
VOL. XLIV.





JOURNAL OF  
THE TRANSACTIONS

OF

The Victoria Institute,

OR,

Philosophical Society of Great Britain.

---

EDITED BY THE SECRETARY.

---

VOL. XLIV.



LONDON :

(Published by the Institute, 1, Adelphi Terrace House, Charing Cross, W.C.)

---

ALL RIGHTS RESERVED.

1912.

C.

THE  
MILITARY  
OFFICE

LONDON :  
HARRISON AND SONS, PRINTERS IN ORDINARY TO HIS MAJESTY,  
ST. MARTIN'S LANE.

## PREFACE.

---

THIS Volume, XLIV, is larger by thirty-eight pages than its immediate predecessor, chiefly owing to the length of the discussions and written communications on the papers contributed. Since October, 1911, thirteen new members and thirty-two new associates have been elected. We may fairly take these two facts as an index of the increasing interest taken in the work of the Institute.

The subjects dealt with in this Volume will be found to meet the needs of the times in many respects:—Mrs. Lewis's, Colonel Mackinlay's, and Professor Milligan's will interest students of the New Testament; Professor James Orr's, Mr. Tuckwell's and Archdeacon Potter's, students of the Old Testament; Mr. Tod applies ancient Greek History to present-day interest in Arbitration. Dr. L. von Gerdtell and the Bishop of Down throw oil on the troubled waters of difficulty and doubt; while Mr. Maunder, Mr. Klein, and Professor Henslow lead their readers into higher regions of Philosophy and Science. In the Annual Address, Sir Andrew Wingate bases a thoughtful examination of current life problems on the integrity of the Bible and its value as *the* antidote to the spirit of Modern Unrest.

The Institute is greatly indebted to the Authors for the time, trouble, care, and thought given to their papers; and to those taking part in the discussions, for the additional light and criticism brought to bear on the subjects examined.

As Editor I desire to add my personal thanks for the great kindness all have shown me in enabling me to produce a carefully corrected record of the transactions for the year.

FREDERIC S. BISHOP,

*Editor.*

*October, 1912.*

# CONTENTS.

---

	PAGE
PREFACE ....	v
REPORT OF THE COUNCIL FOR THE YEAR 1911 ...	1
CASH STATEMENT FOR THE YEAR 1911 ....	7
ANNUAL GENERAL MEETING, HELD IN THE ROOMS OF THE INSTITUTE ON MONDAY, 5TH FEBRUARY, 1912. LT.-COL. MACKINLAY IN THE CHAIR ....	8
THE GENEALOGIES OF OUR LORD. BY MRS. A. S. LEWIS ....	9
DISCUSSION. REMARKS BY ....	19
THE VEN. ARCHDEACON POTTER, REV. CANON GIRDLESTONE, MARTIN L. ROUSE, ESQ., LT.-COL. MACKINLAY, DR. J. W. THIRTLE, REV. E. SEELEY, REV. PREBENDARY FOX.	
COMMUNICATIONS FROM ....	26
REV. G. CREWDSON, DR. KENYON, DR. MARGOLIOUTH, MR. E. J. SEWELL.	
NATURAL LAW AND MIRACLE. BY DR. LUDWIG VON GERDTTELL, MARBURG A/L....	37
DISCUSSION. REMARKS BY ....	51
DR. W. WOODS SMYTH, MR. MARTIN L. ROUSE, REV. C. L. DRAWBRIDGE, DR. J. W. THIRTLE, REV. JOHN TUCKWELL.	

	PAGE
COMMUNICATIONS FROM ....	54
PROFESSOR H. LANGHORNE ORCHARD,	
LT.-COL. MACKINLAY,	
MR. J. O. CORRIE,	
MR. W. E. LESLIE.	
THE GREEK PAPYRI. BY THE REV. PROFESSOR G. MILLIGAN, D.D.	62
DISCUSSION. REMARKS BY ....	72
REV. CANON GIRDLESTONE,	
LT.-COL. ALVES,	
VEN. ARCHDEACON POTTER,	
MR. E. R. P. MOON,	
DR. J. W. THIRTLE.	
THE CONDITIONS OF HABITABILITY OF A PLANET, WITH SPECIAL REFERENCE TO THE PLANET MARS. BY E. WALTER MAUNDER, ESQ., F.R.A.S.....	78
DISCUSSION. REMARKS BY ....	94
MR. E. J. SEWELL,	
MR. MARTIN L. ROUSE,	
MR. J. T. MATTHEWS,	
MR. J. SCHWARTZ,	
MR. DAVID HOWARD.	
COMMUNICATIONS FROM ....	99
REV. DR. IRVING,	
MR. SYDNEY T. KLEIN.	
THE HISTORICITY OF THE MOSAIC TABERNACLE. BY THE REV. PROFESSOR JAMES ORR, D.D. ....	103
DISCUSSION. REMARKS BY ....	115
DR. W. WOODS SMYTH,	
MR. E. WALTER MAUNDER,	
MR. MARTIN L. ROUSE,	
DR. J. W. THIRTLE,	
SIR ROBERT ANDERSON, K.C.B.,	
PROF. E. HULL,	
REV. J. A. LIGHTFOOT,	
MR. H. M. WIENER,	
DR. HEYWOOD SMITH.	

	PAGE
COMMUNICATIONS FROM ....	124
REV. CANON GIRDLESTONE, REV. CHANCELLOR LIAS.	
THE REAL PERSONALITY OR TRANSCENDENTAL EGO. BY SYDNEY T. KLEIN, ESQ., F.L.S., F.R.A.S. ....	129
DISCUSSION. COMMUNICATION FROM REV. CANON GIRDLESTONE.	152
REMARKS BY....	154
REV. DR. IRVING, PROFESSOR H. LANGHORNE ORCHARD, MR. DAVID HOWARD.	
DIFFICULTIES OF BELIEF. BY THE RIGHT REV. THE BISHOP OF DOWN ....	165
DISCUSSION. REMARKS BY DR. W. WOODS SMYTH, MR. MARTIN L. ROUSE, LT.-COL. MACKINLAY, MR. JOHN SCHWARTZ, REV. C. L. DRAWBRIDGE.	175
COMMUNICATIONS FROM ....	181
REV. CHANCELLOR LIAS, SIR ROBERT ANDERSON, PROFESSOR H. LANGHORNE ORCHARD REV. DR. IRVING.	
SOME LUCAN PROBLEMS. BY LT.-COL. G. MACKINLAY ....	187
DISCUSSION. REMARKS BY MR. E. WALTER MAUNDER, REV. DR. IRVING, MR. MARTIN L. ROUSE, MR. SIDNEY COLLETT, MR. F. W. CHALLIS.	201
COMMUNICATIONS FROM ....	206
THE REV. SIR JOHN HAWKINS, BART., REV. PROFESSOR J. ORR, REV. J. VERNON BARTLET, REV. F. H. WOODS, REV. H. GAUSSEN,	

	PAGE
REV. CANON GIRDLESTONE, SIR WILLIAM HERSCHEL, BART., REV. PROFESSOR T. NICOL, REV. J. J. B. COLES, REV. A. H. F. BOUGHEY.	
DIAGRAM ILLUSTRATING LT.-COL. MACKINLAY'S PAPER . . . . . <i>facing</i>	218
ARCHAEOLOGY AND MODERN BIBLICAL SCHOLARSHIP. BY THE REV.	
JOHN TUCKWELL, M.R.A.S. ....	219
DISCUSSION. REMARKS BY	239
MR. E. J. SEWELL, REV. CHANCELLOR LIAS, MR. E. WALTER MAUNDER, MR. JOHN SCHWARTZ, REV. W. R. WHATELY.	
ADAPTATIONS IN PLANTS AND ANIMALS TO THEIR CONDITIONS OF LIFE ARE THE RESULT OF THE DIRECTIVITY OF LIFE. BY THE REV. PROFESSOR G. HENSLow, M.A. ....	
DISCUSSION. REMARKS BY	255
PROFESSOR EDWARD HULL, REV. DR. IRVING, MR. ARTHUR W. SUTTON, MR. MARTIN L. ROUSE, MR. DAVID HOWARD, MR. SIDNEY COLLETT.	
COMMUNICATIONS FROM	266
PROFESSOR H. LANGHORNE ORCHARD, DR. W. WOODS SMYTH.	
INTERNATIONAL ARBITRATION IN THE GREEK WORLD. BY MARCUS N. TOD, ESQ., M.A. ....	
DISCUSSION. REMARKS BY...	292
MR. DAVID HOWARD, REV. H. J. R. MARSTON, DR. J. W. THIRTLE, DR. T. G. PINCHES.	
THE INFLUENCE OF BABYLONIAN CONCEPTIONS ON JEWISH THOUGHT. BY THE VEN. ARCHDEACON BERESFORD POTTER, M.A. ....	
	299



	PAGE
DISCUSSION. REMARKS BY ... ..	318
MRS. WALTER MAUNDER,	
REV. DR. W. H. GRIFFITH THOMAS,	
REV. J. J. B. COLES.	
COMMUNICATIONS FROM ... ..	327
REV. CHANCELLOR LIAS,	
REV. CANON DRIVER,	
REV. R. M. CURWEN,	
REV. DR. IRVING,	
MR. JOHN SCHWARTZ,	
REV. CANON GIRDLESTONE,	
MR. MARTIN L. ROUSE.	
ANNUAL ADDRESS. MODERN UNREST AND THE BIBLE. BY SIR	
ANDREW WINGATE, K.C.I.E. ... ..	339
DISCUSSION. REMARKS BY ... ..	352
GENERAL J. G. HALLIDAY,	
PROFESSOR H. LANGHORNE ORCHARD,	
THE SECRETARY.	
LIST OF OFFICERS, MEMBERS, ASSOCIATES, ETC. ... ..	356

---

\* \* \* *The Institute's object being to investigate, it must not be held to endorse the various views expressed either in the Papers or discussions.*



# VICTORIA INSTITUTE.

---

## REPORT OF THE COUNCIL FOR THE YEAR 1911.

READ AT THE ANNUAL GENERAL MEETING, FEBRUARY 5TH, 1912.

---

### 1. *Progress of the Institute.*

In presenting to the Members the Forty-third Annual Report, the Council are glad to be able to state that there has been a larger increase in the number of Members and Associates than for many years past, and that the interest taken in the papers read, evidenced by full attendances, ample discussions, and written communications, has been very great, and confirms the real need and value of the Institute's work.

### 2. *Meetings.*

During the year 1911 fourteen meetings have been held. The papers read were as follows:—

- “Theosophy.” By the Rev. J. J. B. COLES, M.A., F.R.G.S.
- “The Demand for a Christian Philosophy.” By the Rev. A. R. WHATELY, D.D.
- “The Last Century's Witness to the Bible.” By the Rev. JOHN SHARP, M.A.
- “Science in Relation to Christian Missions.” By the Rev. F. BAYLIS, M.A.
- “Psychology.” By the Rev. J. GREGORY SMITH, D.D.
- “Professor Hilprecht's Newly-discovered Deluge Fragment.” By Dr. THEOPHILUS G. PINCHES.
- “Indications of a Scheme in the Universe.” By the Rev. Canon GIRDLESTONE, M.A.
- “The Sidereal Universe.” By Sir DAVID GILL, LL.D., F.R.S.
- “A Life's Contribution to the Harmony of Christianity, Philosophy, and Science.” By Prof. ROGET.
- “The Descent into Hades : a Study in Comparative Theology.” By the Rev. Canon MACCULLOCH, D.D.
- “Mithraism : Christianity's Greatest Rival under the Roman Emperors.” By the Rev. W. ST. CLAIR TISDALL, D.D.
- “The True Temper of Empire.” By Sir CHARLES BRUCE, G.C.M.G.  
[The Annual Address.]

“The Genealogies of Our Lord in St. Matthew and St. Luke.” By Mrs. AGNES SMITH LEWIS, LL.D. St. Andrews, D.D. Heidelberg.

“Natural Law and Miracle.” By Dr. VON GERDTELL.

In four instances advantage was taken of the kindness of The Royal Society of Arts in lending their large theatre, and twice the meetings were held in St. Martin’s Vestry Hall by the kindness of Prebendary Shelford, one of the Members of the Institute.

### 3. *The Journal.*

The forty-third volume of the Institute’s Transactions was issued in October last, and contained the papers, discussions, and communications of the year, December 1910 to June 1911. The Council have endeavoured to carry on their investigations strictly on the lines of the Institute, searching for actual philosophic and scientific truth on all questions. The speculations of philosophy and science vary from year to year, and are followed as closely as possible. The Bible is the Great Source of Divine Truth, and so far as the Institute has been able by its work to deepen this conviction, the Council desire to express their thankfulness and to give God the glory.

The Council have now printed a full and complete Index of all the volumes (No. I, 1865, to No. XLIII, 1911), in which the names of authors and the leading words in the titles of the papers appear. The Council believe it will be of considerable value to Members and Associates. Upwards of 100 have already been taken.\* This Index will practically remain effective for two or three years.

### 4. *Council and Officers.*

The following is the list of the Council and Officers for the year 1911 :—

#### President.

The Right Honourable The Earl of Halsbury, M.A., D.C.L., F.R.S.

#### Vice-Presidents.

Sir T. Fowell Buxton, Bart., K.C.M.G.  
 David Howard, Esq., D.L., F.C.S. (*Trustee*).  
 Right Hon. Lord Strathcona and Mount Royal, G.C.M.G., LL.D.  
 Lieut.-Gen. Sir H. L. Geary, R.A., K.C.B.  
 Professor Edward Hull, M.A., LL.D., F.R.S., F.G.S.  
 Rev. Canon R. B. Girdlestone, M.A.  
 General Halliday.

\* The price is 1s. each.

## Honorary Correspondents.

Sir David Gill, K.C.B., LL.D., F.R.S.	Professor Warren Upham, D.Sc.
Professor Sir Gaston Maspero, D.C.L. ( <i>Paris</i> ).	Sir Robert S. Ball, F.R.S.
Professor E. Naville, Ph.D. ( <i>Geneva</i> ).	His Excellency Herr Fridtjof Nansen, D.Sc.
Professor A. H. Sayce, D.D., LL.D.	

## Honorary Auditors.

E. J. Sewell, Esq.		H. Lance Gray, Esq.
--------------------	--	---------------------

## Honorary Treasurer.

E. S. M. Perowne, Esq., F.S.A.

## Secretary and Editor of the Journal.

Frederic S. Bishop, Esq., M.A., J.P.

## Council.

*(In Order of Original Election.)*

Very Rev. H. Wace, D.D., <i>Dean of Canterbury</i> <i>(Trustee)</i> .	William J. Horner, Esq.
Rev. Chancellor J. J. Lias, M.A.	A. T. Schofield, Esq., M.D.
Theo. G. Pinches, Esq., LL.D., M.R.A.S.	Heywood Smith, Esq., M.A., M.D.
Ven. Archdeacon W. M. Sinclair, M.A., D.D.	Rev. H. J. R. Marston, M.A.
Rev. John Tuckwell, M.R.A.S.	E. Walter Maunder, Esq., F.R.A.S.
Colonel G. Mackinlay ( <i>Chairman</i> ).	Ven. Archdeacon Beresford Potter, M.A.
Arthur W. Sutton, Esq., F.L.S., J.P.	Rev. J. H. Skrine, M.A.
Professor H. Langhorne Orchard, M.A., B.Sc.	J. W. Thirtle, Esq., LL.D., M.R.A.S.
Rt. Rev. Bishop J. E. Welldon, D.D.	E. J. Sewell, Esq.
Sydney T. Klein, Esq., F.L.S., F.R.A.S., M.R.I.	Prebendary H. E. Fox, M.A.

5. *Election of Council and Officers.*

In accordance with the rules the following members of Council retire, but offer themselves for re-election:—

Wm. J. Horner, Esq.  
 Dr. A. T. Schofield.  
 Dr. Heywood Smith.  
 The Rev. H. J. R. Marston.  
 E. W. Maunder, Esq.  
 Archdeacon Beresford Potter.  
 The Rev. J. H. Skrine.  
 Dr. J. W. Thirtle.

The Council nominate also Mr. Chancellor P. V. Smith and Mr. Joshua Cooper for election on the Council.

The Council greatly regret that Mr. E. S. M. Perowne has had to retire from the duties and office of Treasurer, and they record here their hearty thanks to him for his many kind services on behalf of the Institute.

The Council have the greatest pleasure in nominating their valued colleague on the Council, Mr. A. W. Sutton, as Honorary Treasurer of the Institute.

### 6. *Obituary.*

The Council regret to announce the deaths of the following Members and Associates during the year:—

The Rev. W. H. Painter, Rev. S. Treanor, Bishop Ridley, G. A. Manwaring, Esq., Rev. Prof. Mead, Mrs. Percy Smith, The Archbishop of Armagh, Surgeon-General Partridge, R. Thomson, Esq., Dr. Veasey, Dr. Harper and Sir F. S. Powell.

### 7. *New Members and Associates.*

The following are the names of new Members and Associates elected up to the end of the year 1911:—

MEMBERS.—G. A. King, Esq., M.A., Rev. D. M. Panton, B.A., The Right Hon. the Rev. Lord Blythswood, John B. Braddon, Esq., Rev. Cyril C. B. Bardsley, M.A., R. D. Richardson, Esq., The Venerable Archdeacon Jefferis, D.D., Rev. W. C. Minifie, D.D., Charles Phillips, Esq., Rev. A. M. Niblock, The Right Rev. The Bishop of Llandaff, Mrs. Agnes S. Lewis, LL.D.

ASSOCIATES.—G. H. Wedekind, Esq., Robert Heath, Esq., Miss Pickersgill-Cunliffe, F. D. Outram, Esq., W. H. Poate, Esq., Rev. Principal J. A. Lightfoot, M.A., T. F. Victor Buxton, Esq., M.A., Rev. P. Rose, Miss Louisa Churchill, Miss Dreaper, Major H. Pelham Burn, W. E. Leslie, Esq., Rev. Chancellor S. B. McCormick, D.D., W. H. Seagram, Esq., W. Weller, Esq., Right Rev. Bishop Hassé, Dr. H. M. Bishop, Rev. Claude C. Thornton, M.A., Mrs. Stuart Trotter, Mrs. Edward Trotter, Dowager Lady Pearce, Rev. W. Banham, B.A., Rev. E. Blackburn, M.A., Rev. H. Howson, Peter Whitfield, Esq., Rev. Gifford H. Johnson, M.A., Dr. Philip Rice, Rev. J. C. Fussell, Ph.D., Miss Amy Manson, Rev. J. C. M. Mansel-Pleydell, M.A., Miss E. M. Baumer, C. H. Wingfield, Esq., Lord Balfour of Burleigh, Miss M. R. Strange, J. Graham, Esq., Rev. W. B. Norris, M.A., Rev. J. W. ff. Sheppard, M.A., Rev. A. Cochrane, M.A., W. C. C. Hawtayne, Esq., M.I.E.E., Sir Charles Bruce, G.C.M.G., Mrs. Mabel Holmes, T. G. Hughes, Esq., Mrs. Margaret D. Gibson, LL.D.

LIBRARY ASSOCIATES.—Yale University Library, Chicago Public Library, Wellington General Assembly Rooms Library.

### 8. *Numbers of Members and Associates.*

The following statement shows the number of supporters of the Institute at the end of December, 1911:—

Life Members	...	...	...	28
Annual Members	...	...	...	106
Life Associates	...	...	...	65
Annual Associates	...	...	...	284
Missionary Associates	...	...	...	19
Hon. Corresponding Members	...	...	...	90
Library Associates	...	...	...	24
				<hr/>
			Total	616
				<hr/>

showing the satisfactory net increase, after allowing for deaths and retirements, of 50 on last year's return.

### 9. *Finance.*

The Statement of Receipts and Expenditure attached hereto reflects the increased interest shown in the Institute. The Council are thankful that though there is a deficit on the year's working of £18 6s. 10d. it has not been found necessary to make any call upon the Reserve Fund this year, and they confidently hope to entirely clear this deficit next year.

### 10. *Auditors.*

The thanks of the Council are again most cordially given to Messrs. Sewell and Lance Gray for their kind services as Auditors.

### 11. *Country Meetings.*

In March last, the Rev. John Tuckwell addressed a meeting for the Institute at Woolwich, and Mr. Maunder one in October at Tunbridge Wells, the latter kindly arranged by the Rev. J. H. R. Marston. General Sir Henry Geary was good enough to arrange a course of three meetings at Camberley, at which lectures were given by Mr. Maunder, the Rev. John Tuckwell, and Professor H. Langhorne Orchard. To all these gentlemen the Council tender grateful thanks for their kindness in giving their time and able services on behalf of the Institute.

12. *The Gunning Prize.*

The triennial competition for this prize falls in this year, 1912. The Council have selected as the subject of the essay:—

“The Bearing of Archæological and Historical Research upon the New Testament.”

The competing essays must be in the Secretary's hands on or before the 31st March next.

13. *The Coronation of King George and Queen Mary.*

At the Annual Meeting in June, 1911, the Members and Associates of the Institute approved of an address of loyalty and congratulation to their Majesties upon their Coronation. This was graciously acknowledged in due course.

14. *Conclusion.*

The Council, feeling the great importance and the value of the Institute, warmly recommend its work to Members and Associates, and invite them to induce their friends to join, in order that the Institute may be strengthened, both by sympathy and contribution, and enabled to increase its efficiency as an invaluable means of upholding the Great Truths of Holy Scripture.

Signed on behalf of the Council,

HALSBURY,

*President.*

26th January, 1912.



# CASH STATEMENT, for the year ending December 31st, 1911.

## RECEIPTS.

	£	s.	d.
Cash Balance from 1910 .. .. .		0	1 8
Subscriptions:—1 Member, 1909 .. .. .	2	2	0
3 Members, 1910 .. .. .	6	6	0
93 " " 1911 .. .. .	195	6	0
6 " " 1912 .. .. .	12	12	0
1 Life Associate, 1909 .. .. .	10	10	0
2 Associates, 1910 .. .. .	2	2	0
8 " " 1911 .. .. .	8	8	0
260 " " 1912 .. .. .	272	19	0
15 " " 1913-1916 .. .. .	15	15	0
2 " " .. .. .	8	8	0
Sales .. .. .		534	8 0
Dividend on £500 2½ per cent. Consols .. .. .		62	14 7
Donations .. .. .		12	3 11
Income Tax Refunded .. .. .		18	15 5
		2	10 0
		<hr style="border-top: 1px solid black;"/>	
		£630	13 7

## EXPENDITURE.

	£	s.	d.
Printing .. .. .		147	16 6
Binding .. .. .		35	17 4
Stationery .. .. .		15	3 1
Salaries .. .. .		228	0 4
Rent .. .. .		105	0 0
Postage .. .. .		44	11 10
Expenses of Meetings .. .. .		20	16 10
Life Assurance .. .. .		2	9 11
Gas and Electric Light .. .. .		7	1 3
Library .. .. .		9	2 10
Fire Insurance .. .. .		9	0 12 0
Bank Charges .. .. .		1	8 7
Sundries .. .. .		2	14 0
Cash at Bank .. .. .		9	19 1
		<hr style="border-top: 1px solid black;"/>	
		£630	13 7

} of these £161 12s. 4d. were the unpaid bills of 1910 .. .. .

There is a Capital sum of £500 2½ per cent. Consols, also the Capital of the Gunning Trust Fund, £508 Great India Peninsular Railway Stock. Unpaid bills amount to £194 3s. 3d. Arrears of Subscriptions due are expected to realize £13 13s. 0d.

## GUNNING PRIZE FUND.

	£	s.	d.
Balance from 1910.. .. .		36	1 8
Jan. 3rd, 1911, Dividend .. .. .		12	13 6
July 3rd, 1911 .. .. .		7	3 6
July 21st, 1911, Income Tax Refunded .. .. .		2	14 6
		<hr style="border-top: 1px solid black;"/>	
		£58	13 2

We have verified all the accounts and compared them with the books and vouchers and find them correct.

E. J. SEWELL }  
H. LANCE GRAY } Auditor.

# THE ANNUAL GENERAL MEETING

OF THE

## VICTORIA INSTITUTE

WAS HELD IN THE ROOMS OF THE INSTITUTE ON  
MONDAY, FEBRUARY 5TH, 1912, AT 4 O'CLOCK.

---

Colonel MACKINLAY took the Chair.

The Minutes of the last Annual General Meeting were read and signed.

The SECRETARY read the Report of the Council and the Financial Statement and Auditors' Report for the year 1911 (see pp. 1-7).

Sir ROBERT ANDERSON, K.C.B., moved, and Dr. WOODS SMYTH seconded, the following resolution:—

“That the Report now read be received and adopted, the Officers named therein be elected or re-elected, and the thanks of the Meeting be given to the Council, Officers, and Auditors for their efficient conduct of the business of the Victoria Institute during the year.”

This was carried unanimously.

Colonel MACKINLAY responded on behalf of the Council and Officers. He referred with much regret to the resignation of the Treasurer, Mr. Perowne, and cordially welcomed Mr. Sutton, the newly elected Treasurer. He also referred with satisfaction to the increase of membership, which he considered due chiefly to the energy of the Secretary, who was warmly thanked for his services.

A vote of hearty thanks was accorded to the Chairman, and the Meeting adjourned.

## 522ND ORDINARY GENERAL MEETING.

HELD IN THE ROOMS OF THE INSTITUTE ON MONDAY  
DECEMBER 4TH, 1911, AT 4.30 P.M.

THE VEN. ARCHDEACON BERESFORD POTTER IN THE CHAIR.

The Minutes of the last Meeting were read and signed.

The SECRETARY announced that the following had been elected Members since the last meeting :—

Rev. W. C. Minifie, D.D.; Charles Phillips, Esq.; Rev. A. M. Niblock; and the Bishop of Llandaff,

and the following twenty Associates :—

Rev. W. Banham; Rev. E. Blackburn; Rev. H. Howson; Rev. Gifford H. Johnson; Peter Whittfield, Esq.; Rev. J. C. Mansel-Pleydell; Rev. J. C. Fussell; Dr. Philip Rice; C. H. Wingfield, Esq.; Miss E. M. Baumer; Miss M. R. Strange; John Graham, Esq.; Lord Balfour of Burleigh; Rev. W. B. Norris; Rev. A. Cochrane; Sir Charles Bruce, G.C.M.G.; W. C. C. Hawtayne, Esq.; Rev. J. W. ff. Sheppard; Mrs. Holmes; and Miss Manson (Life Associate).

The following paper was then read :—

### *THE GENEALOGIES OF OUR LORD.*

By Mrs. A. S. LEWIS.

**T**HE Gospels occupy a central point in the citadel of Divine revelation. If their authority could be refuted, or even seriously doubted, the interdependence of the books which comprise the Old and New Testaments would become a thing of nought. The Bible would be like a splendid Gothic arch from which the top stones have fallen, or like a bridge without a key stone, by which we could never cross any stream.

It is not therefore surprising that the strongest battering rams of rationalistic criticism and the artillery of those who are trying to eliminate the supernatural from the region of possibility should be unceasingly directed against them.

Where were all our pleasures?  
Where our hearts' deep love?  
If the herald angels  
Ne'er had sung above?  
If in Bethlehem's manger  
Christ had never lain,  
Joy were but a phantom,  
Life a sob of pain.

At the beginning of the Gospels we meet with difficulties which seem almost incapable of solution and have given rise to discussions which would be interminable, were it not for the

fact that everything must have an end at some time or another in this transitory world.

We have:—

- I. Verses 8, 9, of chapter i, in the Gospel of Matthew :
- II. The difficulty of reconciling the genealogy in Matthew i, 1–16, with the genealogy in Luke iii, 23–38.

Some have tried to get rid of the second difficulty by asserting that Matthew i, 1–16, is a later addition to the Gospel and no real part of it. Others think that the genealogy is primitive, but that chapters i, 18, to ii, 23, of Matthew are a later addition.

If both these sections be integral parts of the Gospel and have suffered little at the hands of scribes, we ought not to find it quite impossible to explain away discrepancies, and bring the whole story into a harmonious whole. I must begin by saying that the view which I intend to put before you is not original. It has been published by Dr. Joseph Michael Heer in parts 1 and 2 of the fifteenth volume of *Biblische Studien*. Dr. Heer is, I am told, a Roman Catholic; there cannot therefore be perfect similarity of view between him and ourselves on all points; and I am both surprised and pleased to find so fearless an investigator within that very old bottle, the Roman fold of the Church Catholic.

I. Let us look at our first problem. It is, that whilst there were forty-two generations between Abraham and Jesus, the name of the first progenitor, and the last-mentioned name, that of the Messiah, being (in accordance with Semitic custom) counted into the number, and while it is easy to divide forty-two by the sacred number of three, producing three times the sacred number of fourteen, or twice seven, we know from the books of II Kings and II Chronicles that the second group had seventeen, not fourteen, members, and that the names of three of the Jewish kings, who were actual forefathers of Joseph, are omitted from the list. These names are Ahaziah, Joash, and Amaziah. Is this the result of a blunder? or is there any deep-seated reason for it?

Dr. Heer finds the explanation in the curse pronounced upon the house of Ahab, king of Israel, in I Kings xxi, 21, and II Kings ix, 8. There it is declared that because of Ahab having introduced the worship of the Baal into Israel, his male descendants should be cut off. This curse, like the one which is attached to the second commandment (the very commandment which Ahab had so flagrantly disobeyed), extended only to the first four generations of his children, and as his daughter Athaliah was married to Jehoram the son of Jehoshaphat, king of Judah, the priests of the temple in Jerusalem, who were also keepers of its

records, thought themselves justified in excluding from the genealogy of their kings the names of Ahaziah, Joash, and Amaziah. With Amaziah the curse was extinguished; and Jehoram was not a descendant of Ahab.

This explanation seems to me the more convincing, inasmuch as Dr. Heer has found it in Hilary's *Commentary on Matthew*, and in Jerome also on Matthew i, 8.

But it may be asked: Have we any proof that such temple-records existed?

i. Dr. Heer tells us that the Hebrews from very early times paid great attention to genealogical tables. In the books of Genesis, Samuel, Chronicles, Ruth, and Nehemiah, we find ample confirmation for this statement. The motive for their doing so was naturally the blessings and promises given by Jehovah to the patriarchs, their ancestors; and the wish to preserve them must assuredly have become more intense in the minds of those who were looking for a Messiah to appear in the line of David. It is possible that during the Babylonian captivity, and after it, many families may have become negligent in the preservation of their genealogical trees. When desolation had passed as a ploughshare over the land; when the heaven over their heads was as brass and the earth under them as iron, they may well have said, What use is it? But two family lines, that of David and that of Aaron, had enough of innate vitality to resist all adverse influences.

ii. The existence of private family registers is proved by the recent discovery of Aramaic documents concerning the Jewish colony at Elephantinè, near Syene (Assouan) of the years 471-411 B.C.

iii. Flavius Josephus (*Contra Apionem*, i, 7) speaks of the great care which was taken to keep the line of the priests pure. When a priest took a wife, he must not have respect either to money or to honours, but must choose a maiden of ancient lineage, who could bring forward sufficient witnesses for her ancestry. For 1,300 years the names of the High Priests had been written in the lists from father to son. The greatest care was exercised even in those priestly families who lived in exile, for example, in the temple of Leontopolis in Egypt. When a scion of one of these families wished to marry, he had to send a list of his nearer ancestors and of his more remote ones to Jerusalem, and also the names of witnesses who could vouch for their accuracy. Jerusalem thus became naturally the storehouse of all family archives which belonged to the tribe of Levi.

iv. We learn from Julius Africanus (in Eusebius, *H.E.* i, 7)

that Herod the Great (son of Antipater) caused most of these registers to be burnt, because he was himself of a plebeian family, and wished to conceal from the Roman Emperor that he had no blood relationship with either the royal line of David or the priestly one of Levi. The private family registers would not, however, all disappear in this catastrophe. Some of them were rewritten from memory, and duplicates may have been preserved in more than one household.

The custom of the *damnatio memoriae* was practised also in Imperial Rome and was carried out in a striking manner against the Emperor Commodus. He, or rather his memory, was condemned in a night sitting of the Senate within twenty-four hours of his death, the same sitting in which Pertinax was nominated as Emperor. It was decreed, amidst the acclamations of the people, that his body was to be thrown into the Tiber, the statues of him were to be destroyed, his name was to be abolished, and erased from every private and public monument.

The Athenians pronounced a like doom on the memory of Alcibiades, and of Philip V. of Macedon, in the year 200 B.C.\*

In a far more remote antiquity, about 1450 B.C. under the 18th Dynasty, quite near to the time of Moses, the Egyptian priests cursed the memory of Amenhotep IV., the heretic king, whose strange behaviour appears to have been responsible for both the building of Tell-el-Amarna and for its ruin.†

But what have these stories to do with the omission of three kingly names from our Lord's genealogy in Matthew's Gospel?

We have allusions to this practice in the Old Testament. It cannot, therefore, have been non-existent among the Hebrews. At the time when the Golden Calf was made, "Whoso hath sinned against me, him will I blot out of my book": Exodus xxxii, 33 (see also Deuteronomy ix, 14; xxv, 19; xxix, 20; II Kings xiv, 27).

Psalm ix, 5, "Thou hast rebuked the nations, Thou hast destroyed the wicked, Thou hast blotted out their name for ever and ever."

Psalm lxix, 28, "Let them be blotted out of the Book of Life."

Revelation iii, 5, "I will in no wise blot out his name out of the Book of Life."

---

\* See Livy, Book xxxi, cap. 44.

† See *New Light on Ancient Egypt*, pp. 63 ff.

These three kings, it will be said, were not worse than others of their line. One of them, indeed, Joash, was decidedly good during the first part of his reign. The genealogy, which included Manasseh, might well have included him.

True, but they, viz., Ahaziah, Joash, and Amaziah, were the descendants of Ahab and Jezebel in the second, third, and fourth generations.

We owe this explanation to Hilary and to Jerome.\* So when Matthew copied "Joram begat Ozias," it was only what he found written in the official genealogy, and he made no mistake about it. With Amaziah the curse was extinguished. We must recollect that the descendants of Ahab and Jezebel in the male line, seventy persons, actually perished (II Kings x, 11) by the hand of Jehu.

Those who wish to understand the explanation of how the number 42, that is three times fourteen, would convey to a Jewish mind a confirmation of our Lord's claim to be the Messiah, and also of how 72, the number of generations by which He descended from God (see Luke iii), would signify that He was the Saviour of all mankind, must consult Dr. Heer's book for themselves. This is a region which I have no great wish to explore.

At the very beginning of the third group, verse 12, during the Babylonian captivity, we are told that Jechonias begat Salathiel, although of him it had been said in Jeremiah xxii, 30, "Write ye this man childless." Yet in the very same verse these words are explained to mean not that he was to have no children (see I Chronicles iii, 17, 18), but that no man of his seed should prosper. Perhaps Salathiel, his son, died young, and also Pedaiah, son of Salathiel. Matthew Henry remarks that as Pedaiah probably died in his father's lifetime, his son Zerubbabel, was called the son of Salathiel. Thus the curse on Jechonias died out in the third generation, for Zerubbabel had the high privilege of returning to Jerusalem and helping to build the temple and also of restoring the dynasty to its ancient thrones (see Ezra ii, iii, iv, v; Nehemiah vii, xii).

The official registers were probably drawn up according to the form of which we have a specimen in Ruth iv, 18-22, where the style is remarkably like that in Matthew's Gospel. If so, it is not difficult to see that the statement of our Lord's birth must have been nearly as it is in the Sinai Palimpsest, "Joseph begat

---

\* Hilary (*Migne's Patrologia*), vol. ix. Comm. on Matt. i, 8. Jerome, vol. vii, c. 10. Comm. on Matt. i, 8 (*Migne*, vol. xxv).

Jesus, who is called the Christ," perhaps from Mary his wife, "the daughter of Heli," being added.

We must remember that Joseph had already exercised the right of a father in naming the Child (see Matthew i, 25), and that any indication of our Lord's real descent would have brought upon Mary the terrible punishment of stoning (see Deuteronomy xxii, 21), which was exactly what Joseph sought to avoid.

II. Referring now to our second problem, more than one explanation has been given by commentators in different ages, as to why the genealogy in Matthew differs so completely from the genealogy in Luke. I think that Dr. Heer, like Matthew Henry, has adopted the true explanation. Matthew, having received the story of the Nativity from Joseph, gave also Joseph's genealogy, through which our Lord's claim to be the Messiah and the official descendant of David is asserted, for Matthew's aim in writing his Gospel was chiefly to convince his Jewish countrymen of this fact. Luke, on the other hand, gives us Mary's account of the Nativity, and therefore he gives us also Mary's genealogy. His chief aim was to convince his friend Theophilus and other Gentiles that Jesus of Nazareth was the Son of God. Our Lord's claim to the Messiahship would have had very little weight with them. I cannot think that the story of the Virgin Mary's parents being named Joachim and Anna rests on any secure foundation. It is derived from a fabulous book called the *Protevangelion Jacobi* (which I have myself edited in its Syriac dress), and which, though embodying early traditions, was excluded from the list of canonical, and even true books, by the *Decretum Gelasii* in the sixth century, but upon which the whole worship of the Virgin Mary in the Roman Church rests. Anna may have been the name of Mary's mother, though it has obviously been suggested to the mind of the romancer, either by the story of the prophet Samuel or by that of Joachim and Susanna.

The Talmud tells us that the name of Mary's father was Heli.\* Men, says Dr. Heer, were often called the immediate fathers of their daughters' children. We can find more than one instance of this for ourselves in the Old Testament. Athaliah was the daughter of Ahab and Jezebel, yet in II Kings viii, 26, II Chronicles xxii, 2, she is called the daughter of Omri, who was Ahab's father. Also Salathiel is called the father of Zerubbabel, although Pedaiah came between them: Ezra iii, 2, v. 2; Matthew i, 12. I love to think that our Lord was not an

---

\* Jerusalem Talmud, Chagigah, fol. 77, 4.



actual descendant of the gorgeous Solomon, nor of any Jewish crowned head excepting David, the sweet singer of Israel, whose poetic gift seems to have been inherited by the most blessed among women. No. He sprang from a line of more modest ancestors, amongst whom we find no kingly names save those of Zerubbabel and Salathiel, names which may possibly represent quite different people from those in 1 Chronicles and in Ezra. Possibly Mary may have sprung from a more consistently God-fearing stock than Joseph did. In Zechariah xii, 12 ff., it is remarkable to find the names of Nathan, Levi, and Shimei following one another, all of these being in Luke's genealogy. Justin Martyr\* and Irenæus† both assume that the genealogy in Luke is that of Mary. Justin, indeed, tells us that amongst the Jews a man was often called the father of his daughter's children (*Dial.* 43), and it is possible in reading Luke iii, 23, to shift the bracket and make the parenthesis begin with "being," and end with "Joseph." We should then read, "And Jesus Himself was the son of Heli." "When He began" is absent from some of the best Latin MSS. and from all the Old Syriac versions.

And now we must speak further of the startling verse which led many English scholars to think that the text of the Sinai Palimpsest is heretical, before it was subjected to the minute investigations which it has since undergone. I think it is Mr. Conybeare of Oxford who observed in the *Academy*: "If this verse had been altered by a heretic, why did he not make a clean sweep of verses 18-25, which are so contradictory to it?" The text shows no trace of a like heresy elsewhere. We must therefore seek for another explanation.

It is quite possible, as Dr. Burkitt and others have suggested, that verse 16 may spring from a misreading of the MS. which underlies the Ferrar group of Greek cursive MSS. But I think that my explanation is a much simpler and more probable one. The phrase, "Joseph begat Jesus," is very probably what Matthew found in the Temple register, the words "to whom was betrothed Mary the Virgin," and "who is called the Christ," being the evangelist's own additions to it. That some such statement had to be explained away is shown by the opening clause of verse 18, which in Greek reads: But the birth of the Christ was on this wise. (*Ἰησοῦ* is omitted also by all the oldest Latin MSS.) To what does that "But" refer? King James' translators and our own English revisers did not know, for

\* *Dial. cum Tryphone*, 43, 88, 100, cf. Migne, vol. vi, pp. 567, 686, 710.

† Book III, cap. 22. Migne, vol. vii, p. 955, seq.

verse 16 had been altered in the early centuries, and so they translated it "Now."

Is "Now" right? I allow that the small particle  $\delta\epsilon$  might be so rendered, and that it is not so emphatic a disjunctive as  $\alpha\lambda\lambda\acute{\alpha}$ , but it is surely significant that our revisers have rendered  $\delta\epsilon$  as "but" in Matthew i, 20, Matthew ii, 19, 22, and in 162 other passages of the same Gospel.

If you will accept my "But" the whole narrative is brought into harmony; and the quibbles of those who find in it two narratives pieced together are rendered useless.

There are also other considerations. Joseph was more than the foster-father of our Lord. He was a legal parent. Without him there would be no sense in Matthew's giving us that genealogy, and a very insufficient basis for the claim of Jesus to be the son of David. Descent in that royal house was never through a woman, and never is so, even in our own enlightened age, except where the male line has utterly failed. Joseph deserved the high honour, for he threw the shield of his protection over Mary at a most trying time, and his faithfulness to her brought it about that our Lord was born in wedlock.

Semitic custom invariably gives the child of a woman's first husband to her second one. This rule is the same in old Arab custom, in Moslem law, and in Hindu law. For proof of this I refer you to Robertson Smith's *Kinship and Marriage in Ancient Arabia*, pp. 109-120, to Sir Henry Maine's *Dissertation on Early Law and Custom*, p. 20.

The Syriac versions bring out the position of the Virgin Mary in regard to Joseph much more clearly than the Greek MSS. There is an unfortunate ambiguity about the  $\mu\epsilon\mu\eta\sigma\tau\epsilon\upsilon\mu\acute{\epsilon}\nu\eta\nu$  of Luke i, 27, and a still greater one about our word "espoused." I hold that the claim of the Ferrar reading found in the Greek versions of that group 13  $\acute{\omega}\ \mu\eta\eta\sigma\tau\epsilon\upsilon\theta\acute{\epsilon}\iota\sigma\alpha\ \pi\alpha\rho\theta\acute{\epsilon}\nu\omicron\varsigma\ \text{Μαριὰμ}\ \acute{\epsilon}\gamma\acute{\epsilon}\nu\eta\eta\sigma\epsilon\nu\ \text{Ἰησοῦν}\ \tau\acute{\omicron}\nu\ \lambda\epsilon\gamma\acute{\omicron}\mu\epsilon\nu\omicron\nu\ \text{Χριστόν}$ , to be the original reading is greatly weakened by its being rendered in the Latin of Codex Bezae, "*Cui desponsata virgo Maria peperit Christum Jesum.*" This is quite at variance with the facts. Mary was much more than betrothed to Joseph at the time of our Lord's birth. She had the full legal status of his wife; else how, I may ask, could she have travelled with him to Bethlehem? All Oriental ideas of propriety would have been outraged if it had been otherwise. The early Syriac versions leave us in no doubt on this point. When the visit of the Angel to Mary is related by Matthew, whether in the old Syriac of the second century or in the *Peshitta* of the very early fifth, the

word by which she is described is  $\text{ܩܘܢܝܩܝܐ}$  "betrothed." Both MSS. of the Old Syriac fail us in Luke ii, 5; because they are defective, through the loss of a leaf; the *Peshitta*, however, uses the same epithet. In Luke i, 56, it will be observed that Mary, after her visit to Elizabeth, returned to her own house, which she would surely not have done had she been then married. When she travelled to Bethlehem she is distinctly called by our Syriac witnesses the wife of Joseph. Not "espoused wife," nor any ambiguous title of that kind: such as we have in the Authorised Version, and in the Greek MSS. which underlie it. And here I must enter an emphatic protest against the rendering of the Revised Version. In spite of the great debt which we owe to the distinguished scholars who have given it to us, I think that here they have displayed a great lack of imagination by rejecting the word  $\gammaυναικί$ , "wife," and keeping only  $\acute{\epsilon}\mu\eta\sigma\tau\epsilon\upsilon\mu\acute{\epsilon}\nu\eta$ , "betrothed." I cannot help wondering if any one of that learned company was familiar with the ways and ideas of Eastern people at the present day? If such an one had been amongst them, he would surely have pointed out the absurdity, nay, the impossibility, of such a circumstance.

I am aware that the oldest of the Greek MSS. (S and B) support the word "betrothed" without "wife," and Tischendorf has lent to this reading the weight of his authority. But the oldest of the Latin MSS. support the Syriac "wife," and as the Syriac is racy of the soil, and was our Lord's mother tongue in its Palestinian or Galilean form, I think that on a point like this, where it has some strong corroboration from other sources, it ought to command attention.

And in weighing the evidence of these MSS., would it not be well to take into account the balance of probability? The late Dr. Frederick Blass would certainly have agreed with me, for he thought that any reading which takes no account of literary style must be doubtful.

The Sinai Palimpsest also tells us that Joseph and Mary went to Bethlehem to be enrolled there, because they were both of the house and lineage of David.

This statement appears also in the Armenian version of the *Diatessarōn*, edited in its Latin translation by Moesinger, in the Commentary of Ephraim and in Aphraates.

The chief interest, I might rather say "value," of the Sinai text lies in its uncommon and often suggestive variants, variants such as "We are servants," in Luke xvii, 10, the word "unprofitable" appearing to be in itself an unprofitable

interpolation; the statement that our Lord, though He was sitting on the well when His disciples left Him at Sychar, was found by them when they returned, standing and talking to the woman, and many other little points of a like kind. A recent critic of my book *The Old Syriac Gospels*, the Rev. Dr. Moffatt, who has shown himself slow to adopt new theories like Sir William Ramsay's South Galatian one, judges them to be due to revision rather than to an original text. I do not think so. It cannot be due to revision when the supposed discrepancy between St. John and the Synoptists as to the scene of our Lord's trial has quite disappeared by the rearrangements of the matter in the XVIIIth chapter of St. John's Gospel,\* whereby verse 24 is restored to its true place after verse 13; my discovery, partly at Sinai and partly at home, that the Greek word *πρῶτος* or *πρῶτον* (for *Σ* and *Β* differ) in John i, 41, was originally *πρωϊ*, that the two dots over the last letter of this word caused it to be mistaken for a *τ*, and that Andrew found his brother Simon not after the tenth hour, but at the dawn of the next day after his meeting with the Saviour (a reading found also in three of the best Latin MSS. *a.e.r.*) as "mane." Dr. Burkitt accepted this reading immediately after I had published it in the *Expository Times*, and he made the further suggestion that Luke vi, 1, with its impossible grammar (in some MSS.) is capable of a similar solution. Dr. Wilkins, of T.C.D., has pointed out another instance in the *Odyssey*, book xxiv, line 24, where for the last twenty years all editors have printed *πρωϊ* instead of *πρῶτος* or *πρῶτον*. These and many other things cannot surely be due to revision; quite probably they are records from the memory of some of the early disciples. Dr. Moffatt approves of those in John i, 41, John xviii, 13, 24, 14, and Luke xvii, 10. These might have predisposed him in favour of the others. To one of these I wish to draw your attention, before I close, as it is connected with the Birth story. The Sinai text makes the wise men say in Matthew ii, 2, "We have seen His star from the east, and are come to worship him." One day I happened to be transcribing this passage: and I asked myself, "What can 'from the east' mean?" Is there any justification for it in the Greek? Looking closely at the original text, I saw that if you take it to be a loose construction, common in popular speech, you might just as easily read, "We, being in the east, have seen His star," as you might say, "I have seen Brooks' comet in Cam-

---

\* This was perceived by Dr. Martin Luther in his translation of the Bible into German, edit. 1558, 1664.

bridge." And at once there flashed on me the solution of a difficulty which I have often felt. How could a star visibly move in the sky? And if the wise men saw a remarkable star to the east of them; why did they not go off to India? The fact that they travelled to Palestine shows that the star was in the west when they saw it. They went to Palestine, over which the star appeared to stand, and they could not go further west, because of the sea.

It happened curiously enough that Dr. Deissmann was visiting us at that time, and as he is one of the first living authorities in Biblical Greek, I took the passage to him. He asked me at once for a Greek Testament, went off to his room to look at it, and in two minutes he returned saying: "You are quite right, the passage may be read just as well, 'We, being in the east, have seen His star.' Such loose constructions are quite common in English." We have not quite forgotten Miss Hobhouse's "To continue the concentration camps is to murder the children," and how an evil suggestion was read into this which she herself has repudiated.

On the origin and value of these variants opinions must differ. Some further discovery may perhaps tell us whether the Sinai text is older or younger than Tatian's *Diatessarōn*; and that will no doubt influence greatly the verdict of scholars on this point. What I am anxious about is that the question shall not be prejudged; and any attempt to fix either the date of the translation or the name of the translator from the evidence we now have appears to me to be fraught with nothing but mischief; for it discourages people from trying to investigate the facts. Rather let us be content to say "We do not know," when we have not a scrap of evidence to guide us to a true solution.

#### DISCUSSION.

The CHAIRMAN said that he felt much indebted to Mrs. Lewis for her able paper: but would not detain the meeting long as the subject was one to which he had not given much study. He thought the instances given of a grandfather being called the father helped one much, and made it easier to understand how different names should appear in the two genealogies. Doubtless what happened was that at first the original "nucleus" was the record of the Evangelists; but later, when new material came to be added from different sources—

these sources caused the variety. But the fact that no attempt was made in early times to make the two genealogies agree by cutting out, or adding, spoke well for the honesty of transcribers. He understood that the usually accepted theory was that both were genealogies of Joseph: but the other theory made the matter easier of reconciliation. Mrs. Lewis' explanation of the vision of the star as suggested by the Sinai MS. was very interesting, and quite reconcilable with the Greek. The only difficulty was, as the star in this case would be in the west, why did not the wise men travel on from Bethlehem till they reached the sea. He asked Mrs. Lewis to explain on what grounds the revisers had rejected "wife" for "betrothed."

Canon GIRDLESTONE said: All will join in thanking Mrs. Lewis for her interesting paper on a subject of very ancient dispute. If I differ from her it will not be taken that I do not appreciate her case, and it may add interest to the discussion. Our subject involves the study of Jewish methods of registration. St. Matthew traces the line of Joseph down from the patriarchs; St. Luke traces it up to our first parents, and so to God. If we turn to I Chron. vi, we find two genealogies of Samuel, one going down and the other up, and with several variations of names. I discussed them in the *Expositor* for November, 1899. In Josephus' life there is a reference to the fact that at certain times genealogies had to be re-copied, and this would possibly lead to mistakes and omissions. The first of the three missing names in St. Matthew begins with the same letters as the name that follows (whether in Hebrew or in Greek), and this may account for the omission, though the theory held by Mrs. Lewis seems quite a reasonable one. The complications round Zerubbabel's name are considerable. Salathiel was probably son of Neri of Nathan's line, and Zerubbabel the son of Pedaiah was adopted by him. Something similar happened in the case of Joseph. This view was worked out by Julius Africanus, one of the most learned men of his age. Hammurabi's code deals with adoption and is at the root of Jewish law. The 188th section orders that if a man teaches his adopted son a handicraft no one can take the lad away from him. This was evidently done by Joseph in the case of Jesus, who was his legally adopted son. Two royal lines converged in the carpenter. If the crown of David had been assigned to his successor in the days of Herod it would have been placed on the head of Joseph. And who would have been the legal successor to Joseph? Jesus of

Nazareth would have been then the King of the Jews, and the title on the Cross spoke the truth. God had raised Him up to the house of David.

Mr. MARTIN ROUSE said : It is a pleasure indeed to listen to the result of new research made by one of those two ladies who brought to light the most ancient Syriac version of the *Diatessaron* and who, to establish and enlarge their discoveries, made three more pilgrimages to the remote library of Sinai where they had found it.

The most remarkable and delightful thing in Mrs. Lewis' paper is that she has found in the Jerusalem Talmud the statement that Mary, the mother of our Lord, was the daughter of Heli. This confirms my own previous conviction that, as Matthew's genealogy is the official one—of Joseph, who took the place of a father to Jesus, so is Luke's the natural one—of Mary, the only earthly parent of the Saviour. For her omission from it and the mention of her husband alone we find two analogies—the first in I. Chron. ii, 35 f., the second in Ezra ii, 61–63. In the first case Sheshan, having no sons, gives a daughter in marriage to his Egyptian servant Jarha ; and the son of this marriage is next mentioned and all his descendants, the pedigree being thus throughout Sheshan's, not Jarha's. In the second case a priest named Hakkoz marries a daughter of Barzillai, the succourer of King David, and takes her family name, so that when his descendants on returning from the Babylonian captivity claim to be priests their male or priestly ancestry beyond Hakkoz can no longer be traced. In neither case is the daughter's name mentioned ; but the genealogy goes on from father-in-law to son-in-law and thence to grandson or later descendant, just as in Luke iii, 23, the genealogy passes from the father-in-law Heli to the son-in-law Joseph and thence to the grandson Jesus.

It is deeply important to prove that Mary was herself descended from David. I once met and tried to re-establish in the faith a thoughtful young man who had been unsettled by a remark of the late Chief Rabbi Adler that the evidence for the Messiahship of Jesus failed in the most important item, since both the pedigrees given of Him in the Gospels traced His ancestry up through Joseph, while there was otherwise no evidence that His mother was a descendant of David.

Yet there is other evidence, though it is immensely strengthened

by establishing, as has been done to-day, that the second Gospel pedigree is that of Mary.

When the angel was foretelling to Mary the birth of the Holy Child, he said, "The Lord God shall give Him the throne of His father David." Now if Joseph, her betrothed, had alone been descended from David, Mary would have answered, "I am not yet married to Joseph," whereas she did answer simply, "I am an unmarried woman," which plainly implies, *if* I were married, since I am descended from David, I could infuse my royal blood into a son, but how can I have a royal son while I am a virgin?

Again, Joseph was a poor man; he would not have spent a longer time from his trade at Nazareth than was needful for reporting himself at Bethlehem to the census-taker and for saluting a few friends there; so when he started Mary must have been very near her time of delivery—say two or three weeks. He surely would not have taken her on that three days' mountainous journey to Bethlehem when she was in that condition, unless she as well as he was "of the house and lineage of David." And this view, as we learn from the paper (p. 17) is strikingly confirmed by a reading in the Sinaitic Syriac Version.

The Revised Version of 1 Chron. iii, 17, 18, makes it clear that both Salathiel and Pedaiah were sons of Jeconiah, the name Assir just following Jeconiah's in the Authorized Version being rendered, as it may lawfully be, "captive," and verse 17 being thus brought into the same form as verse 16. Salathiel and the second son Malchiram doubtless both died before having children, Pedaiah then taking Salathiel's place, and one of the other sons mentioned Malchiram's place, in raising up children to their brothers; and so Zorobabel was later called the son of Salathiel, though he was really (ver. 19) the son of Pedaiah.

On the other hand, the Zorobabel, son of Salathiel, in Luke's pedigree can hardly be the same as Zorobabel, son of Salathiel, in Matthew's; for the former stands twenty generations back from Joseph inclusively, while the latter stands only twelve back; and this difference is out of all proportion to the whole number of generations in the respective pedigrees, which in Luke is forty-two from Joseph back to David, and in Matthew (when the three expunged kings are restored) is thirty-two. There is analogy enough for the repetition of such a combination of names even in



two pedigrees from the same remote ancestors; for in one of the priestly pedigrees in Chronicles we have two Elkanahs, and in another two Zadoks, two, if not three, Azariahs, and two Ahitubs, sons of Amariah and besides Isaiah's witness Zechariah, son of Jeberechiah, there seem to have been two Zechariahs, sons of Berachiah, known to history—the prophetic writer and a martyr who must have suffered long after that writer's period of religious revival: Isa. viii, 2; Zech. i, 1; and Matt. xxiii, 35.

Colonel MACKINLAY said: Our heartiest thanks are due to the learned lady who has so kindly responded to our invitation to lecture to us. Her deep knowledge of Syriac MSS. gives great value to all her papers, but specially perhaps to her remarks about the true meaning of Luke i, 27.

With regard to the star (p. 18), allowing that the words of Matt. ii, 2, *may* mean "We, being in the east, have seen His star," it does not necessarily follow that the star had been in the west because the Magi had journeyed in a westerly direction. We are *not* told that they were *led* by the star to Jerusalem; they evidently came there because they expected to find those who could tell them where Christ was to be born. *Afterwards* we are told the star "went before," this seems to be mentioned as a striking fact, and naturally suggests that during the long journey to Jerusalem the star had *not* been in front of them.

The star would be more likely to be seen in the east than in the west, the place of power rather than of decadence.

Colonel Mackinlay then gave his reasons for believing that the star was an exceptionally bright appearance of the planet Venus, and concluded by again thanking the Lecturer for her interesting paper.

Dr. THIRTLE: Much of the Bible criticism of our time is vitiated by a lack of sympathy with Oriental ideals and modes of thought on the part of critics and expositors. The learned lecturer this afternoon has come to us with an equipment which, in this important respect, is altogether exceptional; and we cannot but express our gratitude to her for the paper she has read.

I desire to make a few remarks upon the passage in which Mrs. Lewis dealt with the relation subsisting between Joseph and Mary at the time of the journey to Bethlehem, for the enrolment mentioned in Luke ii. Was it a state of betrothal or marriage? or might it not, very properly, be described by either of these terms?

In the Authorized Version we read that Mary was "the espoused wife" of Joseph; in the Revised Version that she was "betrothed" to him. The word in the Greek is a participle of the passive voice of the verb *mnêsteuô*. The event specified in Matt. i, 24—he "took unto him his wife"—was assuredly antecedent to the journey to Bethlehem; yet in connection with the latter event, the Evangelist Luke seems to find no difficulty in describing Mary as "betrothed" to Joseph (Luke ii, 4, 5, Revised Version)—the same term as is used in the previous chapter in the story of the Annunciation (Chapter i, verse 27). The circumstances as thus brought before us make it necessary to inquire what the Jews understood by betrothal.

In the article on "Betrothal" in the *Jewish Encyclopædia* (vol. 3) by Rabbi Dr. Drachman, of New York, it is made clear beyond question that the ancient practice in this particular was much different from that which prevails in Israel at the present time. Speaking of the negotiations requisite for arranging marriages, the Rabbi says: "When the agreement had been entered into, it was definite and binding upon both groom and bride, who were considered as man and wife in all legal and religious aspects, except that of actual cohabitation." Note the situation: the betrothed were *considered as man and wife*, one condition alone being excepted.

Dr. Drachman proceeds to show that the Hebrew word *âräs*, "to betroth," must be taken in this sense, *i.e.*, to contract an actual though incomplete marriage. "In two of the passages in which it occurs, the betrothed woman is directly designated as 'wife'—II Sam. iii, 14, 'my wife whom I have *betrothed*'; and Deut. xxii, 23, 24, where the *betrothed* is designated as 'the wife of his neighbour.'" Another such reference is I Macc. iii, 56, "them that were *betrothing wives*." The Rabbi continues: "In strict accordance with this sense, the Rabbinical Law declares that betrothal is equivalent to an actual marriage, and only to be dissolved by a formal divorce." He goes on to explain the "home-taking" of the bride, whereby the marriage was completed, in ordinary circumstances at the end of twelve months, in cases where either of the parties had previously been married, at the end of thirty days.

In the light of these facts we can trace without difficulty the progress of the events set forth in the Gospel story. After receiving from the angel of the Lord the message "Fear not," Joseph "took

unto him his wife" (Matt. i, 20, 24). To the world this step would seem to mark the completion of the marriage; it was, at least, the formal *home-taking*. The Evangelist Matthew, however, proceeds to record another fact: Joseph "knew her not till she had brought forth a son" (verse 25). This statement shows that, in truth, for the time, the betrothal had not eventuated in marriage as the same is contemplated in Rabbinical Law. See "betrothal" and "taking" distinguished in Deut. xx, 7; xxviii, 30.

On a review of all the facts, we conclude that, while it was not incorrect to speak of Mary as the *wife* of Joseph, as is plainly implied in Matt. i, 24, yet, in view of the pious resolution which lies behind the words of verse 25, there was a refined propriety in the use of the Greek word *mnêsteuô* in the sense of "betrothed," thus suggesting an incomplete marriage. Accordingly, the Syriac versions, of which Mrs. Lewis has spoken, in referring to Mary as Joseph's "wife" express the ostensible fact; but the Greek text in maintaining the relation of the betrothal takes account of the heart and soul secret of the parties, whereby the nuptial contract was reverently qualified until the birth of our Lord.

The Rev. E. SEELEY said: May I draw attention to another interesting genealogy which in some points illustrates the difficulties in our subject to-night? Our King George, and also nearly all the royal families of Europe, trace their descent backwards through many of the great men of past ages to the Odin of legendary glory but somewhat misty history. If we compare these various pedigrees and look for their point of contact, we may be struck by the interlacing of the pedigrees and puzzled by many difficulties.

The Gospel genealogies go back to more remote ages and we have fewer side-lights to help us; while we know that sometimes a man was known by two different names, and in other cases several men all bore the same name; so it is quite natural that we puzzle over such pedigrees for want of knowledge.

There is one statement, on p. 12, in the highly interesting paper read this afternoon, with which I cannot agree. "The private family registers would not, however, all disappear in this catastrophe. Some of them were re-written from memory, but in these cases they could hardly go beyond the fourth generation upwards." The last clause seems to me highly unlikely in the case of David's royal line. To me it seems much more likely that each

branch of that family would keep careful memory of its own descent.

Prebendary FOX said: I am ill qualified on literary grounds to discuss the problem before us, but I desire to thank Mrs. Lewis for the suggestion that "These genealogies, as part of inspired scripture, have their spiritual as well as historic uses"; such, for example, as the lesson conveyed by the omission of the three names in the second group, and the reason for that omission. Old Thomas Fuller, quaintest of English divines, writes somewhere: "How fruitful are the seeming barren places of scripture. Wheresoever the surface of God's word doth not laugh and sing with corn, there the heart thereof within is merry with mines, affording, where not plain matter, hidden mysteries." And he illustrates this elsewhere in his *Scripture Observations*, by a reference to the very chapter which we have been considering. "Lord, I find the genealogy of my Saviour (Matt. i, 7, 8) strangely chequered with four remarkable changes in four immediate generations.

1. Roboam begat Abia; that is, a bad father begat a bad son.
2. Abia begat Asa; that is, a bad father, a good son.
3. Asa begat Josaphat; that is, a good father, a good son.
4. Josaphat begat Joram; that is a good father, a bad son.

I see, Lord, from hence, that my father's piety cannot be entailed; that is bad news for me. But I see also that actual impiety is not always hereditary; that is good news for my son."

#### COMMUNICATIONS.

The Rev. GEORGE CREWDSON writes:—

There can be no doubt that the anticipation that Christ would be descended from David was very general in our Lord's time (St. John vii, 42, etc.). It is also clear that it was believed, at least by the disciples, that Jesus was actually descended from him (St. Matt. i, 1; Acts ii, 30, xii, 23; Rom. i, 3; Rev. xxii, 16, etc.). The genealogies in St. Matthew and St. Luke are apparently inserted to prove that this is the fact. But at first sight it would appear that the two genealogies were mutually destructive, and that one or both are entirely untrustworthy. They both appear to be genealogies of Joseph, but they start from two different sons

of David, and end with a discrepancy, which cannot be ascribed to a copyist's error, in the name of Joseph's father.

Further investigation shows that the two lines are distinct from the time of Solomon to the captivity; after which they show agreement for about five generations from Salathiel to Abiud. A similar succession of names may be rather more dimly traced in I Chron. iii, as far as Hodaiah, who is the last of David's line who is named by the Chronicler. (See pp. 28 and 29.)

From this point they are again distinct till we reach Matthan or Matthat (if we may take these as variants of the same name), the (apparent) grandfather of Joseph; after which they again apparently diverge; St. Matthew giving Jacob as the name of Joseph's father, while St. Luke gives the name of Heli. It is scarcely credible that this could be due to an error on the part of the evangelists, for they were almost if not quite contemporaries of Joseph and Mary. It must also be noticed that St. Luke qualifies his statement of the parentage of Jesus by the words, "As was supposed."

The problems before us then are four—

1. To account for the coalescence of the two lines in Salathiel, etc.
2. To account for the similar coalescence in Matthan.
3. To explain how it is that Joseph has apparently two fathers.
4. To find what St. Luke means by his qualifying clause.

1. This can be easily explained by assuming that St. Matthew throughout traces the succession through the leading branch of the family, which of course at first is the line of Solomon; and that this line died out in Jehoiachin, the curse of Jeremiah that he should be childless being literally fulfilled. I do not see that the following words in Jer. xxii, 10, prove that this supposition is wrong, as Mrs. Lewis seems to think. If the royal line thus became extinct, the next senior branch would take its place, and Salathiel, son of Neri, would become the representative of the family. To suppose that Salathiel was Jehoiachin's own son would leave unexplained the remarkable coincidence which occurs at this period between the genealogies of St. Matthew and St. Luke and greatly discredit the latter.

GENEALOGICAL TABLE.

<i>I Chron. iii.</i>		<i>St. Matt. i.</i>		<i>St. Luke iii.</i>
David	....	”	....	David
Solomon	....	”	....	Nathan
Rehoboam	....	”	....	Mattatha
Abijah	....	”	....	Menan
Asa	....	”	....	Melea
Jehoshaphat	....	”	....	Eliakim
Joram	....	”	....	Jonan
*Ahaziah	....	”	....	Joseph
*Joash	....	”	....	Juda
*Amaziah	....	”	....	Simeon
Uzziah	....	”	....	Levi
Jotham	....	”	....	Matthat
Ahaz	....	”	....	Jorim
Hezekiah	....	”	....	Eliezer
Manasseh	....	”	....	Jose
Amon	....	”	....	Er
Josiah	....	”	....	Elmodan
*Jehoakim	....	”	....	Cosam
Jeconiah or Jehoiachin	....	”	....	Addi
† _____				
				Melchi
				Neri
Salathiel	.....	Salathiel	.....	Salathiel
‡Zerubbabel	.....	Zerubbabel	.....	Zerubbabel
....		....		§Rhesa
Hananiah	....	....	....	Joannan

GENEALOGICAL TABLE.

<i>I Chron. iii.</i>	<i>St. Matt. i.</i>	<i>St. Luke iii.</i>
Shechiniah		
Shemaiah		
Neariah		
Elioenai		
¶Hodaiah	.... Abiud ....	Judah
-----		
	Eliakim ....	Joseph
	Azor ....	Semei
	Zadok ....	Mattathias
	Achim ....	Maath
	Eliud ....	Nagge
	Eliazar ....	Esi
	-----	
	<i>Line extinct</i>	Nahum
		Amos
		Mattathias
		Joseph
		Janna
		Melchi
		Levi
	Matthan ....	Matthat
	**Jacob	**Heli
	-----	
	††Joseph	Mary

\* Omitted in St. Matthew's list.

† Line extinct.

‡ Said, 1 Ch. iii, 19, to be son of Pedaiah, Salathiel's brother.

§ Omitted in 1 Chronicles and Matthew.

|| Omitted in Matthew and Luke. There is evidently confusion in the list in Chronicles at this time. The identification of Hananiah with Joannan is pretty clear, that of Hodaiah with Abiud more doubtful.

¶ End of line in Chronicles. Possibly identical with Abiud and Judah.

\*\* Brothers.

†† Son of Jacob by Levirate marriage, Joseph dying childless.

2. The second coincidence, which supposes Matthan (St. Matthew) to be identical with Matthat (St. Luke), which I think most probable, can be explained in the same way—that the senior branch of the family followed, as was his custom, by St. Matthew became extinct in Eliazar, Matthan, of the junior branch, becoming head.

3. Joseph's parentage also, I think, admits of an easy explanation. If we suppose that Matthan had two sons, Jacob and Heli, and that Jacob died childless, then Heli would take his wife under the Levirate law. If Joseph were the fruit of this union, St. Matthew would be quite correct in calling him the son of Jacob, and I believe he would be reckoned as first cousin to Mary the daughter of Heli by a regular wife, and therefore Joseph and Mary would not come within the prohibited degrees of relationship.

4. If Joseph and Mary were living together under one roof, as they probably would be under the circumstances, it is easy to understand how Joseph discovered Mary's condition before his marriage (St. Matt. i, 18). This explanation also gives an intelligible meaning to St. Luke's qualifying words (iii, 23), and also corroborates the remarkable statement of the Talmud to which Mrs. Lewis refers, that Mary was the daughter of Heli.

Dr. KENYON writes: As one would expect from the writer, this paper is both learned and stimulating. I do not think there is anything that I could usefully add to it, nor indeed have I time to write at length on the subject. One point only, which Mrs. Lewis makes, I should like to emphasize; namely, that we have no business to assume that records of what one may call generally the Old Testament period were scanty. All recent discoveries go to prove that the knowledge and use of writing were much more widely spread than used to be supposed. The tablets of Babylonia and Assyria, the papyri of ancient Egypt, the correspondence between Syria and Egypt found at Tell-el-Amarna, the records discovered by Sir Arthur Evans at Gnosso, and in later times the Aramaic and Greek papyri found in Egypt, all these go to prove a very general use of writing in the ancient world, so that one is now entitled to argue that, when direct evidence is wanting, the presumption is in favour of the original existence of records, not against it.

This is a consideration which has a wide bearing on the criticism of Old Testament history, not confined to the genealogies with



which Mrs. Lewis deals; but there need be no hesitation in assuming that these genealogies were derived by the Evangelist from written, and possibly official, records.

Dr. MARGOLIOUTH writes:—

“The genealogies of our Lord,” which you have kindly sent me, I am unfortunately not able to study closely at present, being rather in bad health just now. From the cursory perusal, however, of it which I have been able to make, I gather that the subject is treated in it in a very interesting and instructive way. One point that struck my attention was this: If the report of Julius Africanus that Herod the Great caused most of the Temple registers to be burnt be true, is it likely that such a document as the genealogy given in St. Matthew would have escaped destruction if it had been one of the records preserved in the Temple at that time?

Mr. E. J. SEWELL writes:—

Mrs. Lewis is of opinion (p. 14) that St. Luke gives us Mary's genealogy.

So far as this rests upon the statement on the same page that—“the Talmud tells us that Mary's father was Heli,” it is, I think, open to very grave doubt. Dr. Gore, now Bishop of Oxford, in his *Dissertation on the Virgin-birth of our Lord* says (p. 39) that the statement—“. . . is based on a quite untenable translation.” He quotes the Hebrew of the citation from the Talmud referred to by Mrs. Lewis. It is, of course, unpointed. Lightfoot adopted one possible pointing and rendered it: He saw Miriam the daughter of Heli among the shades. “But,” says Dr. Gore (p. 40), “I am assured that the only legitimate translation is: He saw Miriam, the daughter of Onion-leaves (a nickname of a kind not uncommon in the Talmud); and there is no reason to suppose any reference to our Lord's mother.”

Without the support of this statement from the Talmud there is very little reason to connect Heli with Mary. This is not, of course, urged as *any* reason for doubting that the Virgin Mary was, in fact, descended from David. Mrs. Lewis' very interesting and important statement that “the Sinai Palimpsest tells us that Joseph and Mary . . . were both of the lineage of David” and that the Armenian version of the *Diatessaron* has the same reading strongly support the inference which one would draw independently of them from St. Luke i, 32; Rom. i, 3, and other passages that through His

earthly mother our Lord was "born of the seed of David according to the flesh."

As regards our Lord's descent from David there may be added to the considerations on pp. 11 and 12 of Mrs. Lewis' paper the statement of Ulla, a Jewish Rabbi of the third century, that Jesus was treated exceptionally because of this royal extraction. (Bishop Gore quotes as authority for this the Babylonian Talmud Sanhedrin 43 (a): *cf. Derembourg*, p. 349, n. 2.) See also Farrar's *Life of Christ*, vol. i, p. 9, note, and *Renan Evang.*, p. 60.

Dr. Gore further quotes (*Dissert.*, p. 380, the authorities there quoted) that the great Hillel, grandfather of Gamaliel, who belonged to a family of Jewish exiles in Babylon, and came to Jerusalem about 50 B.C., was recognized as of David's family, and that "appeal was made in vindication of his claim to a pedigree found in Jerusalem."

#### REPLY.

I am asked by Archdeacon Potter why the Revisers of our English Version left out the word "wife" in Luke ii, 5? They doubtless did so chiefly on the authority of  $\aleph$  and B; which, though the oldest of our extant Greek MSS., are probably not older than the Sinai Palimpsest, nor than the old Latin *a* and *b*, which have "wife" always, like the *Diatessaron* and the *Peshitta*. I appreciate the arguments used by Dr. Thirtle; but yet I hold that the phrase "who was betrothed to him" must convey the impression, to plain English people, that Mary was not yet legally married to Joseph. Probably the "his espoused wife" of the Authorized Version describes the situation better than any other phrase would do.

I cannot agree that the Virgin Mary would require a fortnight to travel from Nazareth to Bethlehem. The path was probably, as now, a frequented mule-track, over soft grass. My sister and I have done it, very leisurely indeed, in seven and a half days. Mary perhaps thought that there would be ample time to allow of her return to Nazareth before the expected event; and the usual rate of progress, three miles an hour, did not necessarily put any great strain on her.

I agree with Canon Girdlestone that we must try to understand Jewish methods of registration if we wish to explain the genealogies

of our Lord. I agree also that Ochozias and Ozias begin with the same letter. But as we are told in v. 17 that the generations from David until the carrying away to Babylon are fourteen generations, we see that the omission of the three names, which would bring the number up to seventeen, must be deliberate.

The explanation which is given to us by Julius Africanus one hundred years after the time of Irenæus and one hundred and fifty after that of Justin (A.D. 250) is considerably qualified by his statement (*Eusebius*, H.E., i, 7), Καὶ ἡμῖν αὕτη μελέτω, εἰ καὶ μὴ ἐμμάτυρός ἐστι, τῷ μὴ κρείττονα ἢ ἀληθεστέραν ἔχειν εἰπεῖν. This I translate, "And this is for us to consider, although there is not sufficient evidence for it, as there is nothing better or more true to be said."

The statement of Africanus, which he heard from a remote kinsman of our Lord two hundred and twenty years after the Resurrection, is thus summed up by himself. "Matthew of Solomon's line begat Jacob. Matthew having died, Melchi of Nathan's line begat Heli of the same woman. Heli and Jacob were therefore brothers, and had the same mother. Heli having died without children, Jacob raised up seed unto him, having begotten Joseph, his own child by nature, but legally the son of Heli. Thus Joseph was the son of both."

It seems to me that we have to choose between the accuracy of St. Luke, who probably got his information for the rest of the story directly from our Lord's mother, and that of some unknown kinsman of the family two hundred and twenty years later, in whom Africanus did not himself place implicit trust. For St. Luke puts at least two generations between Melchi and Heli.

Mr. Crewdson suggests a Levirate marriage between Heli and the widow of Jacob. But this is not what Julius Africanus reports. Is this second version of the story founded on any evidence? or is it purely conjecture? Both versions cannot be true.

I am greatly obliged to Canon Girdlestone for drawing our attention to the law in Hammurabi's code, which binds an adopted son more closely to his adopted father, when the latter has taught him a craft, such as that of carpentry.

I fear that some of my audience are under the impression that the Syriac MS. which I found on Mount Sinai is a copy of Tatian's *Diatessarōn*, or *Harmony of the Gospels*. Not so. It is the *Four*

*Gospels of the Separated*, expressly so called; being really an older form of the Old Syriac, or Curetonian Version. It is called *Mepharresha*, *i.e.*, "Separated," exactly the same word, and I think the same grammatical form, as the fourth word which Belshazzar saw written by a mysterious hand on the wall. But as I am ignorant of Babylonian Semitic I cannot be quite sure of this. The *Diatessarōn* is not extant, either in Syriac or in Greek. We have only Ephraim's Commentary on it, with numerous quotations, in an Armenian version translated into Latin by Moesinger. And we know its structure from two very late Arabic MSS., which have in the course of ages been so closely assimilated to the *Peshitta* that they have lost much of their value for textual criticism.

The examples of sons-in-law being called sons, as they were in the families of Sheshan and Barzillai, are most valuable for my argument, and I thank Mr. Rouse for them.

I agree with the Rev. G. Crewdson that I ought to withdraw my agreement with Dr. Heer's idea that a Jewish family would probably not recall its genealogy upwards for more than five generations. But when we find contradictory statements about the childless Jeconiah having children (Jer. xxii, 30; 1 Chron. iii, 17) how are we to interpret it? Surely that these children died young.

It is by no means proved that the Shealtiel and Zerubbabel of Luke's genealogy are the same people as those who bear similar names in Matthew's. They cannot, in fact, be so, if we allow to Luke even a moderate degree of accuracy. For he gives twenty names between Shealtiel and David, whereas Matthew gives fourteen. Between Zerubbabel and Heli, Luke gives seventeen names, while Matthew has eight between Zerubbabel and Jacob. Allowing for many mistakes of transcription, we cannot put the Shealtiel and Zerubbabel of Luke into the same period as those of Matthew.

It may be my want of perception, but I cannot see that the two genealogies show agreement for about five generations from Shealtiel to Abiud. I am very familiar with the mangling which Semitic names undergo on Greek lips, and *vice versâ*, and I see a likeness between Hananiah and Joannan; also between Hodaiah and Judah. There is a very slight one between Abiud and Judah, but none at all between Abiud and Rhesa. Nor can we even be sure that Matthan and Matthat are identical.

There may be a difference of opinion as to whether "Mary the daughter of Heli," who is mentioned in the Jerusalem Talmud, is Mary the mother of our Lord, or Mary Magdalene. She is represented as suffering great torture in Gehenna, and I would submit that this really fiendish idea must have sprung from the spite which many of the Jews undoubtedly felt for the most blessed among women, and which nothing in the history of Mary Magdalene could have been sufficient to awaken. We know that in their blind hate they confounded the two Marys, and gave out that the Virgin Mary had earned her living as a woman's hair-dresser, the verb *gadal* in Hebrew meaning "to plait." Jewish tradition says that after the Virgin-birth had been spoken about at Pentecost, she had to bear with many gibes and insults from her fellow-countrymen. May it not have been for this reason that she perhaps ended her days at Ephesus, as well as for the purpose of being under the care of her sister's son, the Apostle John, to whom her Divine Son had entrusted her?

To Mr. E. Sewell I reply, that the question as to which Mary is mentioned in the Talmud would be best decided by Jewish scholars. He will find the subject discussed in Dr. Dalman's book, *Jesus Christ in the Talmud*, translated by Dr. Streane. I cannot see that Dr. Gore's authority, although great, is final, nor is Lightfoot's, because new editions and translations of the Talmud have appeared since his day.

The legends about Mary in the Talmud are certainly a tissue of confused nonsense; but still it is remarkable that the name of Heli should be brought into connection with Mary's at all.

Amongst the German scholars who support the Heli theory, I may mention Drs. Zahn, Laible, Vogt, and Bardenhewer. One of these, I think it is Dr. Zahn, points out that the name Joseph is not part of Luke's genealogy, for in that genealogy the name of each member is preceded by *τοῦ*, whereas the word *υἱὸς* stands before Joseph to express the supposition that our Lord was his son.

I cannot help thinking that Joseph would have clearly been included in the genealogy if *τοῦ* had stood before his name, *i.e.*, if we had read *υἱὸς τοῦ Ἰωσήφ*. *Τοῦ* has the same effect in Greek as the Irish "O" in names like O'Donnell, or as I am told that the Northumberland miners put it when they call a boy "Jack o' Jim," "Tom o' Jack," without any further surname. I would point out

that we may read verse 23 thus: "And Jesus Himself, at about thirty years old (being, as was supposed, the son of Joseph), was of Heli, of Matthat, of Levi, of Melchi," etc.

Our English translators ought not to have inserted the explanatory words "which was" into that genealogy at all.

I have little space left to speak of the star. My one great objection to the theory of its having been Venus is that the varying appearances of that brilliant planet must have been long familiar to the Magi; for Venus is supposed to be older than our earth itself. Whether the star was a comet, or the appearance of a conjunction of stars seen in the same line, it is impossible now to ascertain. Astronomical calculations cannot help us much, for as my friend Sir Robert Ball said to me the other day, "We are not told from what country the Magi started." Dr. Zahn points out that the star is said to have stood, not over the house, but over the place, or rather "over where the young child was," "And when they came into the house," etc. Probably arriving at the gate of Bethlehem, the Magi inquired if there "were any children in it who had been born so many weeks ago," according to the time when they had first observed the star.

## 523RD ORDINARY GENERAL MEETING.

MONDAY, DECEMBER 11TH, 1911, 4.30 P.M.

JAMES W. THIRTLE, ESQ., LL.D., M.R.A.S., TOOK THE CHAIR.

The Minutes of the previous Meeting were read and confirmed, and the following elections were announced :—

MEMBERS : Rev. S. H. Wilkinson (formerly an Associate) ; Mrs. Lewis (Camb.).

ASSOCIATES : Mrs. Gibson (Camb.) ; Thomas G. Hughes, Esq.

---

### *NATURAL LAW AND MIRACLE.*

By Dr. LUDWIG VON GERDTELL, Marburg a/L.

**T**HAT the Gospel of Jesus Christ stands or falls with a belief in miracles is beyond all doubt. The Gospel is essentially a matter of revelation, and revelation itself is miracle.

Modern unbelief has shown a true instinct therefore in directing its criticism against the faith in the miraculous which belonged to early Christianity. The two principal objections of a philosophic nature which modern unbelief levels at the miraculous are these :—

1. Miracles are impossible, since they destroy the fundamental principle of modern science—the absolutely unalterable, the all-embracing Law of Causation.
2. Miracles are impossible, since they contradict the unchangeable Laws of Nature as known to us.

If these objections could be upheld, the Gospel would be destroyed. Thenceforward culture would be linked with unbelief, and the Gospel with barbarism. The Gospel could then advance only amongst those classes of mankind who were of deficient intelligence, and only prolong that miserable and

ridiculous existence which is the lot of all forms of superstition.

We, the disciples of Jesus, have therefore not only the right but the duty of showing the scientific world that we retain our position in purity of conscience, enlightened by scholarship.

We commence our inquiry with the consideration of the first objection.

*Miracles are impossible, since they destroy the fundamental principle of modern science—that of the absolutely unalterable and all-embracing Law of Causation.*

Before we reply to this objection we must arrive at an understanding with our opponents on two preliminary questions :

1. What is to be understood by the Law of Causation ?
2. How does modern science establish its foundation principle of the absolute validity of the Law of Causation ?

We commence with the first question : What is to be understood by the Law of Causation ?

By Causality or Natural Law we indicate that well-grounded deduction which rests on the innumerable facts of experience, namely :—

1. That every occurrence in the world of nature has a corresponding cause.
2. That the same causes have the same effects in all cases ; or otherwise expressed, that all occurrences in actuality follow one another according to a certain unalterable rule.

For the elucidation of this second definition we give several illustrations, which may be multiplied at will. A stone, allowed to drop from a tower, finding no other resistance than that of the pressure of the air, falls always in the direction of the earth's centre. The direction of the stone's descent is therefore according to an invariable rule. Water freezes at 32° Fahr. ; nitroglycerine explodes with intensest violence under sudden heat of about 420° Fahr. or by means of impact or pressure of a certain force. Strychnine, administered in a certain dose, always causes the death of the person concerned.

As soon as we know these rules of consecutive action, we are in possession of a limited power of natural prophecy. We are able, that is, as soon as an event takes place—such as the swallowing of a certain dose of strychnine by anyone—to predict with certainty in every case the result, viz., the death of the person concerned.



Let us examine the second question—How does modern science establish its foundation principle of the absolute validity of the Law of Causation?

The investigator represents human reason, methodically trained. It is well, therefore, first to inquire what impressions are made upon the less cultivated, the simple person, or even upon the brute beast by the fact of Natural Law.

We commence with brute creation. It is an incontrovertible fact that the brute creation has a sort of intuition concerning those fixed rules by which the processes of Nature are governed. We give some instances of this statement.

No one would believe that the pike stands on a very high plane of brute intelligence. Yet the Berlin zoologist, Möbius, relates the following interesting observations with a pike. A bowl of water was divided into two contiguous compartments by a piece of glass. On the one side was a pike, on the other a variety of small living creatures specially to his taste. The pike went straight for his prey, but received for his pains, not the expected *bonne bouche*, but a disquieting shock from the invisible piece of glass. After repeating the process for some time, the pike finally learnt to deny himself. Several weeks after, the glass division was removed. The pike now swam freely amongst the other creatures. But it never entered his head to attack them. He had—if in this case without justification—apparently made a “Law of Nature” for himself—namely, that to attack his prey resulted in a revengeful blow upon himself.

Brutes have, like men, the power of holding impressions in the memory. The dog will recollect his master after years of separation. Without this feature of animal intelligence the circus performances for which animals are trained would be impossible. Animals are therefore able to note the sequence by which events follow one upon the other according to natural processes. They can, under certain conditions, by a mechanical instinct, reproduce this sequence by means of the rules impressed in their memory. If a dog has been often struck by his master, he knows, by experience, the regular sequence of events: the raised whip, the pain that follows. And every time that the master raises the whip, instinctively, that is, involuntarily and unconsciously, the sensation of the approaching pain forces itself upon him. The dog betrays this feeling plainly by his plaintive cries and crouchings, before even the blow has descended. He anticipates the blow with certainty. Indeed

he already feels it, as if it had taken place, even though it may possibly not take place at all.

The dog places the once experimentally acquired rule that the same cause has always the same effect in the service of his practical policy. When he learnt to "beg" his master always rewarded the completion of his performance by a dainty morsel. The dog came to connect in his memory the two ideas: "beg"—dainty morsel. After a time he comes to "beg" without being told, when he sees the morsel ready. The dog satisfies the condition—that of begging—and expects on the round of experience the consequence thereof—the reception of the desired morsel.

The eminent English philosopher, David Hume, justly maintains, therefore, in his penetrating and epochal work, *A Treatise on Human Nature*, that the brute beast derives a fact directly from that which has acted upon its senses, and that this deduction rests entirely (?) upon past experience, since the beast expects the same consequences to follow the present happening which it has seen always to result from previous similar happenings.

Now let us advance a further step and inquire what impression the primitive human being receives into his consciousness from the fact of Natural Law.

Even the smallest child, slowly awakening into intelligence, is able to form an impression of the regularity of consecutive action in two related events. It experienced hunger and at first simply cried in sheer discomfort. This was always followed by the appearance of the mother with the bottle. It soon notes the connection of the two related occurrences, and for the future it uses its voice to summon mother and the bottle.

A child of about a year old accidentally burns its finger on one of the grate-bars. It connects this thereafter with the sight of a grate-bar, which by mechanical instinct calls up the idea of heat, and excites fear and reluctance to touch the bar.

Here we have the first psychological root of the principle of causation in the fact of the association of ideas.

- (a) We understand by "association of ideas" the involuntary and instinctive joining up of sensations and conceptions in the same consciousness: each observation showing experimentally the effort to call back to consciousness those mental images that have previously been connected either by space or time with the observation.

For the elucidation of this sentence we mention some well-known psychological facts.

An old man, looking among his time-stained documents, setting them in order before he dies, suddenly lights on a long-forgotten faded lock of hair; at once the precious vision of his early love starts up before his mind's eye. He lives again in that glad May morning on which he cut the lock from the girl's head. He sees again her smile, and the words they exchanged, forgotten for sixty years, awoken in his memory.

Another instance: we have all suffered from a wound. Every sight of a wound hereafter forces upon our imagination the sense of pain. If we look at a bit of iron, we expect—and that for the same reason—to find it heavy. The observation of a piece of iron, that is, always excites in us on the ground of previous experience the conscious impression of weight.

The "association of ideas" is, in opposition to the sense of causality, an involuntary mental act. It rests on strong instinct and operates mechanically.

(b) A second equally psychological root of the idea of causation is the instinct of inquiry, possessed by every healthy human being.

This sense is developed in people just as is the power of speech. As people carry their power of speech to varied degrees, so with the instinct of inquiry.

The human mind is so fashioned that it is always asking "Why?" This fact, like that of the association of ideas, is one that cannot be explained or traced to its origin, but can only and simply be recognized.

The instinct of inquiry lends itself to confirmation most clearly in the case of novel experiences which occur in the sphere of human life.

We may see it specially distinctly, for instance, in children of three or four years. As to these every object and occurrence is novel, their inquiring instinct finds most energetic play. They plague us adults a hundred times a day with their stereotyped repetition, "What is that?" "Why is this made so?"

As the human mind by reason of its make-up is under the necessity of exercising its will in the direction of reasonable objects, so is it compelled in the same way to seek the cause of every object or occurrence.

(c) The last root of the causal principle is that of a constantly repeated experimental fact: our instinct of inquiry finds satisfaction in constant experience:

the mechanical course of our imaginative associations becomes more fully confirmed by the actual occurrences of the anticipated observations.

Let us explain this more in detail. We have experienced that fire is hot. First our instinct of inquiry urges us to investigate the source of heat. It finds it close at hand in the fire. Thereafter whenever we see a fire we are compelled by the natural mechanism of our imaginative associations on the ground of former experience to anticipate the sensation of heat. Each test confirms the correctness of our anticipation. Fire is experimentally always hot; and as this anticipation is without exception strengthened by innumerable experiences, it becomes by continued practice a mere matter of course, a second nature. We can then no longer doubt that fire and heat are inseparable, or as Kant and others have expressed it, they are "necessarily" united.

However much the majority of unschooled scoffers may believe in this apparently necessary connection between cause and effect, they are just as little acquainted with the fundamental principle of modern science, viz., the "absolute" validity of the Law of Causation.

The Berlin philosopher, Friedrich Paulsen, well says in his *Introduction to Philosophy*:—

"The whole of popular medicine consists of observed results: whether rightly or wrongly observed; that is, if one does this or that, then one catches cold or fever. If you have fever, you must sweat or be dosed, etc. Many feel no need of an explanation of the relationship between the allied phenomena. Nor are they upset at all if the means do not always cure. Their Law of Causation does not demand it. Its formula seems to be: This follows that generally, but sometimes it turns out otherwise. Indeed this formula corresponds to their demand. Practical life has always to do with consequences such as are only rules with exceptions and are not regardable as fixed laws: the peasant has to do with weather conditions and occurrences in organic life, which are variable and answer to his formula; the labourer with materials and tools which are not always of the same quality; the teacher, the official, with human constitutions which, alike in general features, have all their peculiarities and follow no identical line of action."

It is certain that the simple-minded person, that is to say, the man unschooled in the spirit of modern science, knows nothing of an absolutely inviolable Natural Causation. This can be historically proved. We need only to call to mind the most highly cultivated types of classical antiquity.

Homer was the greatest poetic genius of antiquity. But he knows of no absolutely inviolable causality. Gods and demons intrude themselves constantly and ludicrously into his historic matter, and submit it to obvious and extreme variation.

Even such a truth-loving historian as Tacitus, who wrote centuries after Plato and the Stoics, coolly records miracles, which are in no way behind those of Homer.

The most influential thinker of antiquity was Aristotle. But even this realistic philosopher, naturalist as he was, contents himself with the notion of a system of causes which permits of incontrollable exceptions. Under the title of accidents, they are relegated to that indefinite and irregular factor of nature, the material, while regularity is ascribed to the other factor, that of intelligent being. On that account, science, so far as this disturbing factor enters into it, can get no farther than the formula, "as a rule" (Paulsen, *Einleitung in die Philosophie*, 1906).

A philosopher like Epicurus, otherwise so consistent and materialistic, accepted as his atomic theory that of a causeless deviation from the normal.

These instances suffice to show that even philosophic intellects of the first order have probably had no acquaintance with an absolutely unalterable Law of Causation in nature.

Finally, we hardly need to go so far back, for about one-half of living philosophers stand to the conviction that at least one class of important phenomena, that of human will, is independent of the unalterable Law of Causation, which in all else they zealously defend.

The declaration of the unexceptional validity of causality is rather a special achievement of modern science. The latter expresses itself thus: the naturalist must exclude all supernatural explanations; in his investigations he must be guided by the theory that every occurrence has a natural cause, and that the same cause always produces the same effect.

But this theory of a universal and unalterable Law of Causation is, for the accurate naturalist, no longer a new dogma of natural philosophy established for all time past and future and for the whole cosmos. Rather is it for him, so to say, a utilitarian principle, that is, a method of research which is, in relation to all his investigations, to be presupposed as a working hypothesis, and which is to assist him in the practical experience of his science.

The Causal Principle remains therefore to the true and critically exact student nothing more than a working

hypothesis, which, in its origin, differs not at all from any other hypothesis: it is a rational idea which is forced upon the student of nature as he advances into his analysis of actualities, the soundness of which he continually proves by experience.

Let us take a concrete example: why do we decide

- (1) That every stone thrown upwards into the air will fall back to the earth, if nothing but air pressure resists it; and
- (2) That, if the object does not return, there must have been some preventative element, such as, for instance, a shock to shatter into dust, or a whirlwind, or the like.

The answer is this: from abundant experience, in which the apparent exceptions are attributable as a rule to imperfect observation, and which has been verified by numerous tests, the main conclusion has been reached: we believe that it will always be so, because it has always been so. We have no reason to doubt it, and therefore we call our conclusion "Knowledge." For practical life this "knowledge" has shown itself to be so valuable and satisfactory that it would be foolish to depend upon any other premiss (Georg Runze, *Metaphysik*, 1905). When we fire a shot into the air and fail to find it again, we know as a practical certainty that the shot has not disappeared into the cosmos and lighted perhaps on Sirius, but that it has fallen somewhere on the earth. But this practical certainty is, as a matter of exact theory, not proved or apodictical "knowledge," but only a well-grounded conviction of a high degree of credibility: theoretically considered, it would at least be conceivable that a bullet might, under different conditions, escape into the cosmos. But, so far as experience goes, bodies always return to earth. We therefore assume that in agreement with previous experience, all bullets discharged from a rifle return as a matter of course and practical certainty to earth, even when we have no evidence of their whereabouts. And we have a right to this assumption until a case occurs which can be proved to be an exception.

But this practical certainty must not for a moment be allowed to lead us into the error of thinking that the Causal principle is aught else than hypothesis. To be sure, the Causal principle is a hypothesis of a remarkable kind. It differs from all other hypotheses which enter into Natural Law in these respects:

- (1) It is a hypothesis with which we approach every future possible occurrence in Nature. We expect every

occurrence in Nature to conform to it. It is, therefore, the most general and comprehensive Law of Nature known to us.

- (2) It carries with it the validity of all other hypotheses of Natural Science; which stand or fall with it.
- (3) It provides us with the only possible means of foresight into those things which lie beyond that which is directly present to our conceptions of sense or memory.
- (4) It is the essential antecedent to all human thought and action.

On the other hand the Causal principle shares the weakness of every other hypothesis: it demands proof from every new experience and confronts therefore—if considered with critical accuracy—the danger of being, if not reversed, yet submitted to limitations in its validity by some completely new experience. A present system of Natural Law can therefore—strictly speaking—never pledge the past or future. The only real proof for these, as for all other hypotheses in Natural Science, lies along the line of constantly repeated experience.

By this we have established the fact that the Causal principle is the most general and comprehensive of natural laws; that it is therefore most clearly itself a Law of Nature.

When opponents use the Causal principle as a weapon against the facts of early Christianity, they declare themselves to be opposed to miracles on the ground of an ostensibly unalterable Law of Nature.

Thus the first objection leads to the second, and the two can be disposed of at once.

*Miracles are impossible since they contradict the unchangeable Laws of Nature as known to us.*

The modern mind is nowhere so proudly self-conscious of its mental possessions as in regard to this conception of "Natural Law." This conception has pressed itself into the centre of all scientific thought in a manner of which the ancient and mediæval mind knew nothing.

Nor for the purpose of exact research is the argument of "Natural Law" again a new philosophic dogma established for all time. Our whole acquaintance with the Laws of Nature has its source rather, so far as their purport and argument is concerned, simply and solely in a scientific observation of actualities. The Laws of Nature are really nothing more than

descriptions of our scientific experience. Our knowledge of the Laws of Nature is here just as little "unalterable" as our experience itself. So far from being unalterable, it is, on the contrary, as an entirety, very variable, being subject to constant change and dislocation. It needs therefore constant revision on the basis of sustained and scientific observation.

One of the most eminent men of recent times, Eduard von Hartmann, has in his work *The Outlook of Modern Physics* (1902) once more and with emphasis called attention to the hypothetical element in the Natural Sciences. What he says of Physics applies to all branches of Natural Science. He says:—

"The sooner physics remembers its merely hypothetical character, the better will it be for its scientific recognition in public opinion. As the Natural Sciences in their fundamental conceptions and logical tendencies have become, generally speaking, an echo of a philosophic bias formerly dominant, so it is again in the second half of the nineteenth century, when they have taken over the claim to unqualified certainty from a dethroned speculative philosophy. Long has the spirit of the times submitted its faith to this claim, but scepticism, which, leagued for so long with the Natural Sciences, opposed philosophy, now begins to waver in its allegiance. The recoil is strongest where the claims were highest, and public adulation of them greatest. The Natural Sciences, the hypotheses of which have been accepted by the public of the last half century as the infallible dogmas of a new revelation, may have to endure temporarily an equally unjustified depreciation with that of philosophy in the last generation, unless in good time it remembers the hypothetical character of its findings. . . . Physics can never attain to a certainty denied to every practical science and which is only to be found in a purely formal science. It must content itself with the greater or lesser probability of truth in its results . . . Its conceptions and laws as well as its causes and the existence and constitution of that nature with which it deals are alike hypothetical."

In truth the expression "absolutely unalterable" is only applicable in Natural Law to that which proceeds from human intelligence—such as logic and mathematics—the purely formal.

On the other hand, the history of all Natural Sciences shows that the argument of Natural Law has only a relative validity. It requires rearrangement from time to time. This is again dependent upon the actual occurrences met with in experience. If in the study of Natural Science wholly different decisions are arrived at, it will be necessary to formulate afresh the Law of



Nature which is therein involved, in order to possess a canon which will precisely and fully reconcile that which is characteristic of one group of natural phenomena with all else that we at present perceive in regard to it.

A "Natural Law" which has held good for a millennium may need to be altered or modified to-morrow, through one successful experiment or one single discovery.

For the better appreciation of this, think of the revolution wrought by Copernicus in the history of astronomy. Till his time, the theory that the sun revolved around the earth held good as a fixed "Natural Law." But if anyone were to support this "Natural Law" to-day every third class scholar would assign him his place as scientifically obsolete.

But not only the purport and argument of the Laws of Nature, but also the view of the possible or impossible is probably subject to the changes of time and the changes of the material cosmos. Let us look only at the following facts.

Mediæval theology rejected the thought of the possibility of an antipodes with righteous anger as impossible nonsense: yet this truth now presents no difficulty to the credence of the most illiterate Capuchin friar.

In a legal manual of the eighteenth century an incidental sentence declares that contracts wherein the undertaking of one party includes an impossibility are invalid: and it cites as an illustration: "as if for instance we should undertake to perform a flight in the air." In a subsequent edition of the book the writer adds the foot-note, "This instance is no longer suitable, for in the meantime M. Montgolfier has invented the balloon."

And if the apostle Paul in one of his admittedly genuine epistles had related that Jesus had rendered Himself visible to His disciples through a closed wooden door, the whole natural and popular philosophy of the nineteenth century up to the date of the discovery of X-rays by Professor Röntgen would have declared with one voice that such a "miracle" was ludicrously impossible, since it contradicted "the unalterable Laws of Nature as known to us."

When the first German railway was about to be built, the medical faculty of Erlangen expressed their official opinion that the prospective passengers would, through the rapid transport, become *en masse* the victims of incurable brain diseases.

A traveller told the negroes in Central Africa that the water in Europe became, at certain times of the year, so hard and

strong that horses and carts could be driven over it. But the negroes thought it to be extravagant "brag," and laughed him to scorn. They considered a "miracle" such as that to be impossible, for it was altogether irreconcilable with the "unalterable Laws of Nature as known to them."

In facts and occurrences such as these, facts which have been declared impossible, there is no case of true miracle. Our philosophic opponents really stand on the same ground as the negroes. This statement is made neither as joke nor insult. We desire only to help them to see their own position. The fundamental difference between us and them is this: our opponents think mediævally and we think as moderns. Our opponents subordinate the reliable and attested actuality of early Christianity to a dogma of popular philosophy called "the unalterable Laws of Nature as known to us." We, on the contrary, subordinate our thought and philosophy to the brilliantly proven facts of history. Our opponents have respect, but lack the critical faculty for a current dogma. We, on the other hand, approach this as we approach all dogma, with a critical faculty devoid of respect. In reality it matters little whether our opponents derive their dogma of the unalterability of the known laws of nature from the Catholicism of the middle ages or from the philosophic enlightenment of the twentieth century. Dogma remains dogma. And to play off dogma against the united experience of the apostolic age is nothing else but to think mediævally. The scientific instincts of theological free thought are, in point of fact, mediæval, even though they may appropriate the set phrases of the modern thinker. And the mediæval mind represents something that must eventually be outstripped by the modern mind.

These two objections of our opponents represent the main argument of the scientific superstition of modern culture. The superstition is, indeed, only recognised as such by a few. The modern world of culture, hypnotized by the phrases of an enlightened age, languishes in a bondage of naturalistic dogma, of which it is for the most part quite ignorant. We must therefore penetrate more deeply into our subject.

Our opponents really treat the "Laws of Nature" as if they were a mystic power, brooding over the individual occurrences of Nature and determining the realisation of their changeless course. They put this power in the place of the Godhead, and see in it an object of almost divine dignity. Justly does such a shrewd and learned observer of the modern world of culture as the philosopher Rudolph Eucken say in his *Geistigen*

*Strömungen der Gegenwart* (1904), "So does the remarkable cult of natural law pass from Giordano Bruno through the new era to the present time. The more sceptical men are to-day about religion, the more do they make a fetish of Natural Law. The more audaciously the declaration of a law and canon is pressed, the more easily does it find acceptance. We are accustomed to look at a fact before we recognize its truth. But to doubt a law seems to be a sin against the spirit of science."

Now how is it really that our opponents have come to lean on this dogma of the "absolutely unalterable Laws of Nature"? The answer is simple enough. Our opponents have observed that the occurrences in Nature arrange themselves according to certain rules in Nature and recur in regular sequence. From this most correct observation they draw the false conclusion that these rules in the world of Nature are absolutely "unalterable." The regularity with which natural phenomena recur produces in our opponents, simply as a matter of habit, the expectation that that which has always till now been, must repeat itself again to-morrow.

Look at the following case: a child of five years is left alone on an island, having never heard of the possibility of the death of a human being. There he grows to be an old man of seventy. Could this old man, on the ground of the fact that he had consciously lived sixty-five years on the island, be sure that he would live to be seventy-one? There is no necessity for the fulfilment of his expectation. He might pass away the following day. Experience alone would inform him.

But the fallacy of our opponents is, scientifically considered, more short-sighted than the wild imagination of the old man. Our opponents forget that to scientific observation only an almost infinitesimal fraction of the universe is accessible. And their observation is still further limited to a trifling period of time as compared with the time in which the universe has existed.

The advance of the dogma of the absolute unalterability of the Laws of Nature as known to us is thoughtlessly premature. It is an expression implying satiety of knowledge and a circumscribed dogmatism.

We can therefore only ask our opponents to lay to heart the true utterance of Sigwart, the well-known logician, when he says in his *Logik* (1893):

"It is but an empty, rhetorical phrase so to speak of the Laws of Nature as if the formulary itself operated with magic power on

phenomena, and to ascribe to such laws a somewhat which does not belong to them. Laws can never be reasons for actual happenings, they can only express the manner in which practical things constantly behave."

When our opponents, therefore, aver in relation to the miracles of early Christianity that they contradict all general, natural, and scientifically historical experience, they do not thereby in the least disprove their possibility. They do naught else by their objection than establish the true conception of a miracle. For what is a miracle? Answer: An occurrence that forms an absolute exception to all general experience.

The first objection, consequently, stripped of its elegant phraseology, simply states the following absurdity—an occurrence which has never been experienced, never can be. The scientific sentiment lying within this objection of our opponents would, if consistently practised, lead to the decline of all exact research. It would throw us back into the position of a Thomas Aquinas. It is the negation of the spirit of modern science, which spirit we strenuously follow. And we have as moderns an interest in the radical and complete disproof of the first objection.

Summarizing we add:

Our opponents in their first two objections commit the following mistakes. They take a scientific working hypothesis, which should remain intact in its own sphere as a practical guide for the investigator, lift it out of its own place and confidently elevate it into a dogma of natural philosophy; that is to say, from the hypothetical supposition of the investigator that every cause has an effect, and that the same cause produces the same effect, they unconsciously evolve a dogma, which is to overmaster all experience, the dogma of the Law of Causation, all-controlling and absolutely unalterable.

Considered logically, it is within the power of our opponents to raise the doubt as to whether the miracles of early Christianity were observed and reported with sufficient care to warrant their acceptance as facts. But our opponents have no right to play off against us, the adherents of Christianity, who have examined these questions, and find ourselves compelled to accept the miracles of the apostolic age as facts, the Causal principle or any special law of nature; for thus to oppose a hypothesis to a fact is a mediæval farce. If the miracles of early Christianity—brilliantly, scientifically, historically attested as they are—really do form exceptions to the

unalterable Laws of Nature as known to us, then indeed it is high time that the genuine modern mind should afresh revise his ideas as to the "known and unalterable Laws of Nature," and that he should adjust them to correspond with facts. Even then the orthodox Christian has possession of the fact of causality, which is only unalterable in the claim of modern science, and as its so-called fundamental principle. This fundamental principle, so called, is for the Christian thinker a postulate only, not a new dogma. We close, therefore, with the following thesis: the question of the credibility of the miracles of early Christianity is not philosophic but purely historic. These miracles may be considered as facts as soon as satisfactory proofs of their historic credibility have been furnished.

---

*Note.*—These proofs I have presented in a special study already translated into English, viz.: Dr. Ludwig von Gerdtell, *Have we Satisfactory Evidence of the Miracles of the New Testament?* Translated by Samuel Hinds Wilkinson. John Bale, Sons, and Danielsson, 83-91, Great Titchfield Street, London, W. Price, 1s.

#### DISCUSSION.

Dr. WOODS SMYTH thought the interesting paper was particularly appropriate at the present time, and contrasted the views of the Rev. J. M. Thompson and other University teachers with those of Professor Huxley, for example, who sees no difficulty in the possibility of miracles, and recognizes that those of the Bible are rationally accredited.

Mr. MARTIN L. ROUSE thought it was a daring assumption that God was bound always to work by the common sequences of cause and effect, and all the more so because those sequences are subject to exceptions. He instanced the case of water differing from the general law of contraction with lowering temperature, when it reaches 39° Fahr., at which point it begins to expand; and referred to a waterspout acting against the usual law of gravitation. In these cases, and many others, a higher law is introduced, and for a special purpose. Men, too, utilize higher laws in overcoming lower: what possible difficulty therefore could remain to prevent men's

belief that miracles have been wrought by God for the sustenance and deliverance of His people, or by Christ the Son of God for confirming the divine origin of His nature and His message?

The Rev. C. L. DRAWBRIDGE said that success in man's scientific achievements was in exact proportion to the extent to which he acted in harmony with, and not contrary to, God's orderly government of the cosmos, and asked, "Did Jesus Christ act in accordance with God's normal government of the cosmos, or did He deliberately cut right across it?" and added:—We should also ask by which of the two modes of action would He be most clearly displaying His oneness with the Creator and Governor of the universe? Let us leave for a moment the various ancient and modern schools of theological opinion on the subject and get back to what the Master Himself said about His achievements. Our blessed Lord studiously avoided acquiring a reputation as a wonder worker. The records of His sayings and doings have come down to us in Greek, and the one word which comes nearest to, although it is by no means identical with, our word miracle, is *τέρατα* (*terata*), which means marvels. (The other words which are translated "miracle" in the Authorized Version, *σημεῖα* (*sêmeia*), *δυνάμεις* (*dunameis*), and *ἔργα* (*erga*), certainly do not mean miracle.) Well, Jesus Christ did not employ the word *τέρατα* (*terata*) when speaking of His own works, but only when referring to false Christs who would arise. And He implored His followers not to attach undue importance to such marvels. Marvellousness implies no abnormal divine action, but human surprise due to ignorance on the part of those who marvel. Savages marvel at balloons. The Authorized Version arbitrarily introduces the word miracle very frequently, because the Authorized Version was translated at a time when men looked for the evidence of Providence almost solely in exceptions to uniformity. The word miracle was largely left out of the Revised Version, partly because it does not occur in the Greek text, and partly because men had very wisely come to perceive God's action in normal occurrences, as well as in what appear—at the present stage of our knowledge—to be abnormal phenomena of the universe.

Personally I ascribe the Gospel phenomena to the great divine power possessed by Christ, working in accordance with the Creator's usual habits of action, but in such a wonderful manner as to transcend—in many instances—our very finite and imperfect

knowledge of nature, *i.e.*, of God's orderly government of the cosmos.

The CHAIRMAN: It is, in my judgment, important to decide what we understand by "miracle." Assuredly we are not specially concerned with the *terata*, that is, "wonders," or acts of prodigy, which Christ foretold would be performed by false prophets. Acts of a marvellous character, such as might be wrought by deceivers, may have their proper interest; but it is not in order to an understanding of such acts that Christian apologists are to-day devoting their earnest thought to the subject before us. Rather the enquiry is as to the *sêmeia*, or "signs," performed by Jesus Christ—not to signs in general, but to signs specifically attributed to our Lord—that thought is devoted. We are concerned to understand, and place in relation to questions of faith, deeds which, as claimed, were done by the exercise of divine power, and at length recorded in the Gospels *with the object of inducing men to accept Christ*; in other words, of leading them, although originally biased against Him, to *believe on Him, to rely on Him*, as the Son of God, according as we read in John xx, 30, 31, *cp. v. 29*. Strictly speaking, investigations regarding miracles pass by, or ignore, mere wonders, and concern themselves with deeds and performances which manifestly challenge a recognition of the hand of the Infinite. In this light, certain narratives recorded in the Old Testament assume an importance alongside those of the New, and, above all such miracles, alike in significance and influence, stands the victorious resurrection of Jesus Christ from the dead.

Rev. JOHN TUCKWELL, M.R.A.S., said that if we were to avoid confusion in our discussion we must have a little clearer definition of our terms. We must take care not to deny the reasonableness of the distinction between the natural and the supernatural. By the natural I suppose we mean all that belongs to the cosmos—the organized creation—which will include the subjects of all our sureness, whether physical or otherwise. But there is, of course, something beyond. The supernatural must have existed before the natural, and be the antecedent from which it has sprung. The cosmos must have had a beginning, but before that beginning there was the supernatural Creator, the Author of it. Again scientific knowledge must be distinguished from science properly so called. Science is a fixed quantity and cannot be added to until our Creator

sees fit to create some new fact. But scientific knowledge is continually changing and growing. Hence, an occurrence cannot be described as a "miracle" because it does not come within the circle of our scientific knowledge. Dr. von GerdteLL's definition of a miracle is inadequate, and, of course, he did not intend it to be taken as logically and scientifically sufficient. The freezing of water would not be a miracle to the King of Bantam, merely because he did not understand it. If I may venture to describe a miracle, I should say it is an effect produced in the sphere of the natural by a force in that of the supernatural. Our Lord's miracles of healing the blind and restoring limbs to the maimed cannot be explained by natural laws, and could not have been an imposition upon the ignorance of the observers. It was the power of the supernatural breaking through into the sphere of the natural. There is nothing contrary to reason in this, although it may be above the sphere of reason. Our Creator, having given freedom to our wills, cannot be less free than we are, and if we are able to modify the operation of natural laws, surely we must allow to Him a still greater power.

The miracles of our Lord were the exercise of the divine freedom to overrule and supersede mere natural law by the introduction of supernatural power.

A cordial vote of thanks to the Lecturer was put to the meeting and carried unanimously.

Professor LANGHORNE ORCHARD, M.A., B.Sc., wrote:—In this thoughtful and interesting paper the able author has established his contention that the "laws of nature," or uniform natural sequences, do not preclude the possibility of miracle. He might have carried the argument further, and shown that science affirms that miracles have actually taken place. We shall undoubtedly agree with his conclusion (page 45) that "a present system of natural law" can—"strictly speaking—never pledge the past or future."

The value of the paper is impaired by what is, in my judgment, a serious misnomer. The reasoning process described by the author as springing up from the three roots of association, inquiry, experience, is a very different thing from "the causal principle" or "the law of causation." This principle is innate to the mind. Being a primary intuition, it is the root of inquiry, and is



independent of experience and of the association supplied by experience. Its formula is, "Every effect flows from some cause, and like effects flow from like causes." Without the causal principle science cannot advance a step—it is far more than a "working hypothesis." Were it really opposed to belief in miracle, we should have to "consider of it"; but, in reality, the belief in miracle finds in the (true) causal principle invincible *support*, complete *justification*.

I cannot accept the definition of a "miracle" on page 50, which appears to include such things as radium, wireless telegraphy, etc.

Colonel MACKINLAY writes:—I heartily agree with the conclusions of Dr. von Gerdthell that miracles may be considered as facts, as soon as satisfactory proofs of their historic credibility have been furnished—and they have been furnished.

Though our author's definition of natural law, given on page 38, is excellent, he hardly seems to have adhered to it throughout his paper, as for instance, when he considers the astronomical ideas before the time of Copernicus (page 47). There is surely a great difference between the laws of nature and the theories or working hypothesis deduced from them, which are liable to constant change.

Hume\* wrote of a miracle as "a violation of the laws of nature," and as "a transgression of a law of nature by a particular volition of the Deity." But these are very erroneous methods of expression.

Augustine† wrote, "How can that be contrary to nature, which takes place by the will of God, seeing that the will of the Great Creator is the true nature of everything created? So miracle is not contrary to nature, but only to what we know of nature." Dr. Sanday,‡ commenting on this remarkable passage, wrote, "Miracle is not really a breach of the order of nature; it is only an apparent breach of laws that we know, in obedience to other and higher laws that we do not know." The late Duke of Argyll§ wrote, "Miracles may be wrought by the selection and use of laws of which man knows and can know nothing, and which, if he did know them, he could not employ."

Far from miracles involving violations of law, it would appear from scripture that they are performed in accordance with it—

---

\* *Philosophical Works*, vol. iv, pp. 93-105.

† *De civitate Dei*, xvi, 8.

‡ *The Life of Christ in Recent Research*, p. 216. (1907.)

§ *The Reign of Law*, p. 16.

though the law is in a higher plane from that which can be appreciated by mere human intellect. This is the deduction from the following passages: Matt. xiii, 58; Mark ix, 23; Acts xiv, 10; Matt. ix, 29; Mark ii, 5, x, 52; Luke xviii, 42.

In all these instances a law is evident, that certain miracles could only be performed when faith was present on the part of the recipient.

The Victoria Institute is to be congratulated on the widespread sources from which its papers come. Within less than a year and a half we have a paper from an American judge, afterwards another from a Swiss professor, and now we are indebted to a distinguished German author for the present valuable essay.

Mr. J. O. CORRIE wrote: Inductive reasoning is, as the lecturer points out, not demonstration. But the presumption against miracle, that arises from observed causality in nature (notably in the domain of astronomy), is reinforced by the thought that an exceptional interference by the Creator in His own order of things would be derogatory to His wisdom and dignity.

This is met by the observation that the state of things on earth, through all known history, cannot be regarded as being purely of His order. The villainies of mankind (to say nothing of the cruelties of nature) evince the action of some malign power.

The deprivation of the divine order by such a power accounts for, and justifies, miraculous interposition.

Mr. W. E. LESLIE wrote: After carefully perusing Dr. Ludwig von GerdteLL's interesting paper on Natural Law and Miracle I cannot but feel that he errs in his treatment of the principle of causation.

Think for a moment of a few of the consequences of the denial of the necessity of causation. History disappears, and with it the historic Christ. The scriptures may have come into existence fortuitously—without writers. The New Testament miracles may have happened of themselves—in other words, did not happen, for a fortuitous *σημείον* is a contradiction in terms. Nay, the philosophical basis of theism itself is destroyed. A first cause may be dispensed with in a universe which, “considered with critical accuracy,” may have come into existence by chance.

I cannot enter into a detailed examination of Dr. von GerdteLL's arguments, but would like to make one or two remarks on his three

psychological "roots" of the idea of causality. Before doing so may I suggest that his evident firm conviction that the causal principle must have a "root" is somewhat inconsistent with his theories:—

- (a) The exact nature of the first root is not clear. The contention appears to be that our constant consciousness of the mechanical operation of the association of our ideas gives rise to our idea of causation. Is not this equivalent to the assertion that our idea of causality is derived from our perception of the mechanical working of that principle. This may be true, but how does it help the Doctor's argument?
- (b) Surely the statement of the second "root" should be reversed. Is not the idea of causation the root of the instinct of inquiry? A child sees a railway engine go "puff, puff." He feels there must be some adequate reason or cause for this. He yearns to know what that cause is—hence his inquiries. The idea of causality is necessarily presupposed by the query "Why?"
- (c) The third "root" implies that the repetition of a given sequence causes me to become gradually convinced that the two phenomena constituting the sequence are causally related. If this be so, why do I not believe day to be the cause of night, and 12 o'clock of 1 o'clock? As a matter of fact, we do not experience this growing conviction. A chemist performs a new experiment. Though he performs it but once he is perfectly convinced that, on the conditions being reproduced, he will always obtain the same result.

Dr. von Gerdell next cites the belief of Homer and others in the intervention of gods and demons in the course of nature, as an evidence that they did not believe in the inviolability of the causal principle. But this is beside the mark. The ancients believed, not that these prodigies were *uncaused*, but that they were supernaturally caused. Even Epicurus or Aristotle would have found it difficult to believe that a field of wheat had sprung into being uncaused, *i.e.*, without growth from seed sown, on the one hand, or the powerful intervention of some supernatural being, on the other.

At the end of his first part Dr. von Gerdell states that the causal principle "is the essential antecedent to all human thought

and action." If this be true must not every criticism of that principle rest upon the assumption of its truth ?

I conclude in the words of Mill :

"In every case of alleged miracle, a new antecedent is affirmed to exist ; a counteracting cause, namely, the volition of a supernatural being. To all, therefore, to whom beings with superhuman power over nature are a *vera causa*, a miracle is a case of the Law of Universal Causation, not a deviation from it."

Dr. VON GERDTELL, in a considered reply, writes : The Rev. John Tuckwell asserts that "Dr. von GerdteLL's definition of a miracle is inadequate, and of course he did not intend it to be taken as logically and scientifically sufficient," but Mr. Tuckwell gives no proof of his assertion. It has evidently escaped Mr. Tuckwell that I am discussing the actual possibility of miracles not with those who believe in God, but with atheists and agnostics. I can only argue with the latter on a basis that they recognize.

I think, however, that any declared unbeliever would accept my definition of a miracle, and would reject Mr. Tuckwell's ; for he brings the idea of "God" into the discussion, which the unbeliever would summarily reject as an extremely doubtful theological hypothesis. But Mr. Tuckwell's definition of a miracle as "an effect produced in the sphere of the natural by a force in that of the supernatural" would not be sufficient even for a believer in God. According to the Biblical view, which I have fully dealt with in connection with the miracles in a German treatise, *all* natural events are produced by the direct operation of God. From the Bible point of view, then, the characteristic distinction of the miracle as opposed to the ordinary, regular natural event would be annihilated by Mr. Tuckwell's definition. Mr. Tuckwell's point of view is the scholarly, not the Biblical point of view, when he says, "the miracles of our Lord were the exercise of the Divine freedom *to overrule and supersede mere natural law by introduction of the supernatural power.*" But this is beside the point. The whole question in what relation God stands to the cosmos, and especially to the miracles, has nothing to do with out present subject. I shall deal very fully with this important point in my pamphlet "The Early Christian Miracles at the Bar of Modern Views," which will be published this winter by Morgan and Scott in English.

Professor Orchard touches upon one of the deepest questions of

philosophy, which for lack of space and time we cannot solve here. Professor Orchard—an Englishman—treats the origin of the causal principle in the German manner; whereas I, a German, treat it in the English manner—*i.e.*, Professor Orchard represents rather Kant's view—and I, on the other hand, Hume's view. Nevertheless, I do not identify myself with Hume by any means. In my view the causal principle is not innate in man; the spirit of inquiry only is innate and given to man *before* any experience. The causal principle, on the other hand, is the scientific decision to which civilized man has gradually worked his way in the course of history as the result of that spirit of inquiry which he has in reality always retained. The spirit of inquiry has exactly the same relation to the causal principle as the innate moral instinct in man has to his later moral maxims. The former is to be found in man before any experience, but the latter is avowed as the principle of his moral life at a later stage, as the result of the moral instinct together with the experience of the individual.

Professor Orchard cannot seriously assert that the properties of radium or wireless telegraphy form an *absolute* exception to the whole of our scientific experience. Both are rather to be judged in accordance with the principles of chemistry and physics known to us. I have, of course, no intention of placing the Resurrection of the Lord Jesus on the same plane as wireless telegraphy. Radium *always* has the same properties, and wireless telegraphy *always* acts when the natural conditions are supplied. On the other hand, no man can supply the natural conditions which would cause every dead body to return to life.

Mr. Leslie forgets that I make a distinction in my statements, as I have already shown in reply to Professor Orchard, between the instinct of inquiry and the principle of causation. Mr. Leslie confuses the two, or wrongly identifies the one with the other. The instinct of inquiry is innate and precedes all experience. It is the assumption of the possibility of knowledge. The instinct of inquiry is a powerful mental impulse that impels us to seek for a cause for every event. The principle of causation, on the other hand, is a methodical principle, which the civilized man has voluntarily accepted as the result of the instinct of inquiry that he has in reality always retained. The principle of causation is the offspring of the instinct of inquiry *and* of experience. The instinct

of inquiry impels us to seek a cause for all we see. But the belief that everything that happens *has* a cause is the outcome of experience exalted into a method.

When we read the Biblical scriptures or contemplate the world, our instinct of inquiry impels us to ask, Who is the author of these scriptures? What is the cause of this world? The *fact*, however, that *every* document has an author and *every* work of art a maker, is a commonplace of experience. From this point of view Mr. Leslie's suggestion that I am demolishing the foundation of theism and of Christianity is refuted. I ask, then, in complete logical harmony with these convictions of mine, on the basis of my instinct of inquiry *and* of my experience, What are the roots of the principle of causation? My instinct of inquiry impels me to ask the question as to the roots of the principle of causation, and all my experience leads me to expect confidently on the ground of the psychic mechanism of the association of ideas that the principle of causation itself has its "roots."

To Mr. Leslie's assertion that, according to my views, the day must be considered to be the *cause* of the night, my answer is: The night certainly does follow the day regularly, but it *precedes the day with equal regularity*. By the term "cause" I understand only an event which *always* follows the cause, and *never* precedes it. When a chemist makes a new experiment he expects that in accordance with his general experience the experiment will succeed in all future repetitions, as all the previous experiments have done.

Finally, Mr. Leslie asserts that in my view the ancients (Homer, etc.) did not believe in the inviolability of the principle of causation, as they supposed their gods to intervene in the course of nature and history. As a matter of fact, they believed that the supposed miracles were *caused*, though *supernaturally* caused.

I assert, therefore, on page 43, only that Homer "knows nothing of an absolutely inviolable *natural* causation."

Aristotle and Epicurus no doubt did not go so far as to suppose that a field of corn grew up without any cause. But my statements above about them are nevertheless simply historical facts, which we have to accept.

524TH ORDINARY GENERAL MEETING,

HELD (BY KIND PERMISSION) IN THE

LECTURE HALL OF THE ROYAL SOCIETY OF ARTS,  
MONDAY, JANUARY 8TH, 1912, AT 4.30 P.M.

THE CHAIR WAS TAKEN BY THE REV. CANON GIRDLESTONE, M.A.

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

MEMBER.—Walter Henty, Esq.

ASSOCIATES.—The Dowager Lady Pearce and Rev. J. Stuart Holden, M.A.

The CHAIRMAN in introducing the lecturer, the Rev. George Milligan, D.D., Professor of Biblical Criticism at Glasgow University, said : There are two things that are interesting to all housekeepers, one is pottery and the other is paper. Even the children are interested in paper about Christmas time because it so often wraps up their Christmas presents, but very few people know the ancestry of paper or pottery. Now, however, archæological science has fixed its attention on broken pottery and fragments of paper ; pottery as old as the days of the Roman Emperors and paper older still. I think when we regard the records of the Palestine Exploration Fund we find that the study of broken pottery is becoming a science, and that there are strata in pottery as in the earth's surface. When you go from pottery to paper you do not find strata, but you find matters of great interest. Two things which we have taken the most interest in in this connexion are the census taken by the old Roman Emperors, and the language in which the old papyri are written. You get there the language of some of the earliest days of Christianity. Dr. Deissmann's enthusiasm has so carried him away that he almost refuses to recognize anything which should be called Hellenistic, because he knows what we call Hellenistic should be called the popular language of the people. After all, however, we cannot forget that Judæo-Greek, which is another name for Hellenistic, means Jewish thought in the Greek language. As Rabbi Duncan said, the

Jews thought in Hebrew but talked in Greek, so that you must interpret their Greek language with the aid of Hebrew. I have the very great pleasure of introducing Dr. Milligan, from Glasgow, Professor of Biblical Criticism in that great City and University, who has come down from his northern regions to give us a little light on this most intricate question.

The following paper was then read by the author :—

*THE GREEK POPYRI: with special reference to their value for New Testament study.* By the Rev. GEORGE MILLIGAN, D.D.

**T**HE most significant fact in the modern study of the New Testament is the recognition that it has a history, and consequently that its several books can only be fully understood in connexion with their surroundings or the special circumstances that called them forth. Everything, therefore, that throws light on the outward conditions of the New Testament writers is of value. And it is just here that we are in a peculiarly favourable position to-day. In the past, archæological discovery has been mainly concerned with the Old Testament, but now the light it sheds has been extended to the New Testament, and is largely derivable from the immense number of texts on stone, on earthenware, and on papyrus which recent discoveries have brought within our reach.

It is only with the papyrus texts that we are at present concerned, and for their preservation we have to thank the marvellously dry climate of Egypt. The first finds were made at Gizeh as far back as 1778, but it was not until 1877, when several thousands of papyri were unearthed at Crocodilopolis, or Arsinoë, the ancient capital of the Fayûm district, that public interest was fully aroused. The work of exploration was afterwards extended to Tebtunis, Oxyrhynchus, and other likely sites, with the result that we have now thousands of these texts in our hands.

Some were discovered in the ruins of old temples, others in the cartonnage of mummies; but the greater number were found in what were literally the dust or refuse heaps on the outskirts of the towns or villages. The old Egyptians, instead of burning their waste-papers, as is the custom amongst ourselves, were in the habit of tearing them up and throwing them out on these heaps, where, thanks to a covering of desert sand, they have lain in safety all these years.

Of the character of these papyri I shall have something to



say directly, but it may be well to explain first what papyrus is, and how it was prepared. It was the ordinary writing material, the paper of the time, and was made from the papyrus plant which then grew in great profusion in the Nile. The pith of the stem was cut into long strips, and a number of these were laid down vertically to form an outer layer. Over this a second layer was placed horizontally. And then the two layers were hammered or pressed together to form a single sheet, which, when it had been smoothed over with ivory or a shell, was ready for use. If more space than a single sheet afforded was required, a roll, which might be of any length, was formed by fastening a number of single sheets together.

Of the papyri now available a considerable number contain literary texts, both of works previously known, and of others, of which hitherto we have possessed only the titles. Amongst these new texts are fragments of Sappho and Pindar, the *Constitution of Athens* by Aristotle, the *Mimes* of Herodas, and the *Hypsipyle* of Euripides. But the great bulk of the papyri are non literary, and their contents are of the most miscellaneous character, reports of legal proceedings, wills, contracts, accounts, and so forth, and in addition a large number of private letters, often of the most artless and self-revealing character.

Let me give you an example, a letter\* written in 1 B.C. by a certain Hilarion to Alis, his sister, and also, probably, according to the custom of the period, his wife. It runs as follows:—

“Hilarion to Alis, his sister (wife), heartiest greetings, and to my dear Berous (Βεροῦτι τῇ κυρίᾳ μου) and Apollonarion. Know that we are still even now in Alexandria. Do not worry if, when all the others return, I remain in Alexandria. I beg and beseech of you (ἔρωτῶ σε καὶ παρακαλῶ σε) to take care of the little child, and as soon as we receive wages (ὀψώνιον λάβωμεν, cf. II Cor. xi, 8) I will send them to you. If—good luck to you!—you bear offspring, if it is a male, let it live; if it is a female, expose it. You told Aphrodisias, ‘Do not forget me.’ How can I forget you? I beg you, therefore, not to worry.

“The 29th year of Cæsar, Pauni 23.”

(Addressed) “Hilarion to Alis, deliver.”

Simple though this letter is, it is very significant. To the palæographer its value is undoubted, seeing that it is exactly

---

\* Full particulars regarding this, and most of the other documents quoted in this lecture, will be found in the lecturer's *Selections from the Greek Papyri*, published by the Cambridge University Press.

dated by year and month. To the historian it throws a sad side-light on the social customs of the time. And even to the New Testament student it, along with similar documents, presents indirectly not a few points of great interest and importance. Before, however, proceeding to these, let me indicate some of the direct contributions which the new discoveries have made to our knowledge of the sacred writers and their times.

Amongst these must be reckoned the recovery of a large number of fragmentary texts of our Biblical writings, some of which are older in point of date than any previously available. This, in the Old Testament field, the famous Papyrus Nash, now in the Library of Cambridge University, presents us with a manuscript text of the Decalogue, which must have been written five or six hundred years before the oldest Hebrew manuscript now in our possession, and which, with certain variations, in the main confirms the accuracy of the text we find in our Hebrew Bibles. Similarly, when we pass to the New Testament, we have now recovered fragmentary portions of the Gospels of St. Matthew and St. Luke belonging to the end of the third century, and a papyrus roll containing a considerable part of the Epistle to the Hebrews, which is generally assigned to the early years of the fourth century. Of much the same date is a leaf with the first seven verses of Romans, written in large rude uncial characters, which the discoverers, Dr. Grenfell and Dr. Hunt, pronounced to be a schoolboy's exercise. Dr. Deissmann, however, in his *Light from the Ancient East* (p. 232), adopts the view that the papyrus really served as an amulet for the Aurelius Paulus who is named in the cursive writing beneath the New Testament text. We know from other sources how widely the early Christians used amulets as a protection against harm, and this may well be an additional example of the practice. In any case the simple and rude character of the writing is of interest as showing how widely by this time the New Testament writings had penetrated amongst all classes of the population. And in this same connexion we may note in passing the recent recovery of certain leaves of such small dimensions that they point to the existence of pocket editions of various parts of the canonical and uncanonical writings of the day.

Amongst these uncanonical writings, special mention may be made of the so-called *Logia* or Sayings of Jesus. In 1897, Dr. Grenfell and Dr. Hunt discovered at Oxyrhynchus the leaf of a papyrus-book containing eight Sayings, several of which

closely resembled certain Sayings of Jesus recorded in the Gospels. Others, however, were new, such as the famous fifth Saying—"Jesus saith, Wherever there are (two), they are not without God (*ἄθεοι*), and wherever there is one alone, I say, I am with him. Raise the stone, and there shalt thou find me; cleave the wood, and there am I." Six years later a similar leaf from a papyrus-book was found, this time containing five Sayings, of which it must be sufficient to quote the first. "Jesus saith, Let not him who seeks . . . cease until he find, and when he finds he shall be astonished; astonished he shall reach the Kingdom; and having reached the Kingdom, he shall rest." The exact amount of authority to be attached to these Sayings is still a matter of eager discussion amongst scholars; but, in the main, they may be regarded as embodying a more or less genuine account of certain words of our Lord, which had been banded down by tradition, and had been collected for purposes of devotion or instruction.

Other documents which have awakened a wide-spread interest are the census returns, or house-to-house enrolments, of which a large number have been recovered. As these returns are dated, it can now be conclusively established that the enrolments followed a cycle of fourteen years, and though no return has yet come to light earlier than the year A.D. 19-20, it is generally agreed that the whole system was originated by Augustus as early as 10-9 B.C. Let me give you an example of one of these returns. I shall take it from the year A.D. 48, as we have a very complete example belonging to that year.

"To Dorion strategus . . . from Thermoutharion, the daughter of Thoonis, with her guardian Apollonius, the son of Sotades. There are living in the house which belongs to me in South Lane . . . Thermoutharion, a freedwoman of the above-mentioned Sotades, about 65 years of age, of medium height, dark complexioned, long visaged, a scar on the right knee. Total, three persons.

I, the above-mentioned Thermoutharion, along with my guardian, the said Apollonius, swear by Tiberius Claudius Cæsar Augustus Germanicus Emperor, that assuredly the preceding document makes a sound and true return of those living with me, and that there is no one else living with me, neither a stranger, nor an Alexandrian citizen, nor a freedman, nor a Roman citizen, nor an Egyptian, in addition to the aforesaid. If I am swearing truly, may it be well with me; but if falsely, the reverse.

In the ninth year of Tiberius Claudius Cæsar Augustus Germanicus Emperor, Phaopli . . ."

Closely connected with these returns, and of still greater interest for the New Testament scholar, as one of the many proofs which are accumulating from all sides to confirm the accuracy of St. Luke as an historian, is an extract from a rescript by a Roman Prefect in Egypt in the year A.D. 104, ordering all persons to return to their homes in view of the census about to be held in the seventh year of Trajan. The original document, which is now preserved in the British Museum, is unfortunately much mutilated, but there can be little doubt as to the correct reading of the passage which concerns us. It runs as follows:—

“Seeing that the time has come for the house-to-house census, it is necessary to compel all those who for any cause whatever are residing out of their homes to return to their own homes, that they may both carry out the regular order of the census, and may also attend diligently to the cultivation of their allotments.”

The analogy here presented to Luke ii, 1-4, is obvious, and shows that Herod, when he issued his command, was acting under Roman orders.

I can only refer to one other of the new finds as throwing light on the history of early Christianity. All have heard of the great Decian Persecution in A.D. 250, in which, in order to save their lives, certain recusant Christians obtained certificates, or *libelli*, as they were called, from the magistrates to the effect that they had sacrificed in the heathen manner. Of these *libelli* no fewer than six have been found, and it is deeply touching to be able to look upon these frail papyrus leaves, with their direct evidence of the human weakness of those to whose acts they bear witness. The one which I am about to quote has been published by Dr. Hunt among the *Rylands Papyri*, and the different handwritings of the different parties concerned are still clearly discernible on the original document. Here it is in Dr. Hunt's translation:—

“To the commissioners of sacrifices from the Aurelia Demos, who has no father, daughter of Helene and wife of Aurelius Irenæus, of the Quarter of the Helleneum. It has ever been my habit to sacrifice to the gods, and now also I have in your presence, in accordance with the command, made sacrifice and libation and tasted the offering, and I beg you to certify my statement. Farewell.

(2nd hand.) I, Aurelia Demos, have presented this declaration. I, Aurelius Irenæus, wrote for her, as she is illiterate.

(3rd hand.) I, Aurelius Sabinus, prytanis, saw you sacrificing.

(1st hand.) The first year of the Emperor Cæsar Gaius Messius Quintus Trajanus Decius Pius Felix Augustus, Pauni 20."

From this, the direct value of the new discoveries in supplying us with new and original documents, it is more than time that we turned to their indirect significance for the New Testament student. This comes out in many ways. I can only indicate a few of the more important:—

1. The papyri help us to picture to ourselves what must have been the *outward appearance* of our New Testament autographs.

A short Pauline epistle, such as the Epistle to Philemon, would occupy a single sheet of papyrus, measuring from 5 to 5½ inches in width and 9 inches to 11 inches in height; while in the case of the longer epistles, a number of these sheets would be fastened together to form a roll. When finished, the roll would be rolled round upon itself, fastened with a thread and sealed, and then the address was written on the back. If the general practice of the time was followed, that address in the case of the New Testament writings would be of the briefest, all the more so because the private messengers to whom they were entrusted would be fully informed as to writers and recipients. For preservation, rolls, after being read, were fastened together in bundles, and laid in arks or chests. And it will be readily seen how unsigned rolls, laid in the same place and dealing with cognate subjects, would in some cases come to be afterwards joined together as if they formed parts of one work, while in the case of others questions of authorship and destination might readily arise.

In accordance again with the ordinary custom of the day, and various hints thrown out in themselves, there can be little doubt than many of the New Testament writings were in the first instance written to dictation.

Just as in innumerable papyrus letters we find the statement "I, So and So, wrote on behalf of So and So," because he was too illiterate to write for himself, or could only write slowly, so we can understand how St. Paul, burdened as he was with daily work and innumerable other cares, would gladly avail himself of the assistance of some friend or follower in the actual labour of transcribing his Epistles. And once we have realized this, it becomes a further very important question, What was the method of the Apostle's dictation? Did he dictate his letters word for word? Or was he content to supply

a rough draft, leaving the scribe to throw it into more formal and complete shape? In all probability his practice varied, and it may well be that the differences in diction and style in the Pauline writings, which a certain school of critics are apt to make so much of, are due in part at least to the employment of different scribes, and the amount of liberty that was left to them.

Of the variety of readings that soon arose in connection with the New Testament writings I shall say only this, that it can be explained to a great extent by the very nature of the material on which the original writings and the early copies were written. Papyrus, if a very durable, is also a very brittle substance. And as the result of frequent handling, many breaks or *lacunæ* would arise, which the copyists would have to fill up by conjecture or by an appeal to the context. And when we add to this consideration the fact that these copyists were not professional scribes, and that the writings themselves were not at first regarded as of so sacred or authoritative character as to make even deliberate changes of text impossible, it is easy to understand how the worst corruption of the text of our New Testament writings can be traced to the first century of their transmission.

2. Passing from the outward form of the New Testament writings to their *literary character*, we are at once met with the fact that by far the greater part of these consist of epistles or letters. It was a mode of writing which at the time had come to be widely used for purposes of instruction and edification, and in which St. Paul and other of our New Testament writers found a vehicle ready to their hands admirably adapted for the personal and practical ends they had in view.

We are not surprised, therefore, to find that the general plan of the Pauline Epistles is often closely moulded on that of the simple, homely letters which the desert sands have restored to us. An example will again make this clearer. Let me read to you a letter written in the second century after Christ by a soldier to his father, to announce his safe arrival in Italy, and to tell those at home how he is faring.

“Apion to Epimachus, his father and lord, heartiest greetings. Above all, I pray that you are in health and continually prosper, and fare well with my sister and her daughter and my brother. I thank the lord Serapis that when I was in danger at sea he straightway saved me. When I entered Misenum I received my travelling money from Cæsar—three gold pieces. And I am having a good time. I beg you, therefore, my lord father, write me a few

lines, first regarding your health, secondly regarding that of my brother and sister, thirdly that I may kiss your hand, because you have brought me up well, and on this account I hope to be quickly promoted, if the gods will. Give many greetings to Capito, and to my brother and sister, and to Serenilla, and my friends. I send you a little portrait of myself at the hands of Euctemon. My (military) name is Antonius Maximus. I pray for your good health. The Athenian Company . . . Give this to (the office of the) first cohort of the Apamæans to Julianus, paymaster from Apion, so that (he may forward it) to Epimachus his father."

Now, when we leave out of sight the wholly different character of the contents, you will notice that the general plan of his letter—(1) Address and Greeting, (2) Thanksgiving and Prayer, (3) Special Contents, (4) Closing Salutations and Benediction—is exactly the plan which as a rule St. Paul follows in his Epistles. And the point is of importance, as I have already indicated, as emphasizing that in these epistles we are dealing with living documents, written to meet immediate and pressing needs. And consequently that, in order to understand them, we must do our utmost to picture to ourselves the persons alike of their writers and first readers.

3. This same point comes out again very clearly in the light which our new discoveries throw on the *language* of our New Testament writings. It has now been conclusively established that this language is in the main the ordinary vernacular Greek of the day, and consequently these humble papyrus documents and letters often give a fresh reality and significance to many well-known New Testament words and phrases. A good example is afforded by the word which St. Paul uses to describe the attitude of his Thessalonian converts in view of the Parousia of Christ. He speaks of them, according to our English version, as "behaving themselves disorderly" (II Thess. iii, 7), and some commentators have thought that he was pointing to serious moral misconduct on their part, but the use of the same verb in a contract of apprenticeship of the year A.D. 66 in the sense of "playing truant," shows that what the Apostle has really in view is a neglect of daily work and duty. The Thessalonians were so excited over the thought of the Parousia, which they believed to be close at hand, that they were failing to show that quiet attitude of confidence and work which their Lord would expect of them when He came. And similarly it is interesting to learn that the very word Parousia, which we have come to use as a kind of technical term for that Coming,

was in use at the time to describe the "visit" to any district of a king or great man. Consequently it points to Christ's Parousia not so much as a Return, but as a Coming, a Presence, which not even His absence from sight for a little while had been able really to interrupt, and which, when fully re-established, would last for ever.

So, again, Bishop Lightfoot's graphic translation of Gal. iii, 1, "O foolish Galatians, who did bewitch you, before whose eyes Jesus Christ was *posted* up, *placarded* before you," receives fresh confirmation when we find the parents of a wayward son giving orders that an order or proclamation should be *placarded* (*προγραφῆναι*) to the effect that no one any longer should lend him money, while the verb used to describe the conduct of the lad in the body of the document, "living riotously" (*ἀσωτενόμενος*), at once recalls the corresponding description of the prodigal in the Gospel, who wasted his substance "with riotous living" (*ζῶν ἀσώτως*, Luke xv, 13).

Examples might easily be multiplied, but these are sufficient to show how much may be learned from the most unexpected quarters regarding our New Testament vocabulary.

4. The same applies to the help which the papyri afford in restricting the *general surroundings* of those to whom in the first instance our New Testament writings were addressed.

From no other source can we gain so clear an idea of the conditions under which Christianity arose with reference to the humbler classes of the population. These—among whom the new teaching found many of its earliest and warmest adherents—are deliberately ignored by the historians of the time. But now it is just the life of these common people which these frail papyrus leaves, written with their own hands, bring before us with almost startling vividness.

Notices of birth, of death, contracts of marriage, deeds of divorce, actions for assault, arrangements for village festivals, etc., all let us see the men and women of the day, as it were, in the flesh; while their letters of repentance and mourning, their inquiries for help from oracles and dreams, show that, even if they were "much addicted to religion," the religions of the day were powerless to meet their deepest needs.

To prove this, I cannot do better than read to you one or two of these documents. I have referred already to one poor prodigal son, here is the actual letter of another (see p. 76), in which he pours out his sorrow and repentance to his mother. The last part of the letter has been torn across, and yet I think you will feel that these broken lines and sentences are almost more pathetic than if they were complete.



“Antonis Longus to Nilis his mother, heartiest greeting. Continually I pray that you are in health. Supplication on your behalf I direct each day to the lord Serapis. I wish you to know that I had no hope that you would come up to the metropolis. On this account neither did I enter into the city. But I was ashamed to come to Karanis because I am going about in a disgraceful state (*σαπρῶς*). I wrote you that I am naked (*γυμνός*). I beseech you, therefore, mother, be reconciled to me (*διζλάγητί μοι*). Furthermore, I know what I have brought upon myself. Punished I have been, in any case. I know that I have sinned (*οἶδα, ὅτι ἡμάρτηκα*). I heard from Postumus, who met you in the Arsinoite nome, and unreasonably related all to you. Do you not know that I would rather be a cripple than be conscious that I am still owing anyone an obolus . . . come yourself . . . I have heard that . . . I beseech you . . . I almost . . . I beseech you . . . I will . . . not . . . otherwise . . .”

Or take this letter, in which a woman named Irene seeks to comfort a friend who has lost a son :—

“Irene to Taonnophris and Philo, good cheer! I was as much grieved and wept over the blessed one as I wept for Didymas, and everything that was fitting I did and all who were with me . . . But truly there is nothing anyone can do in the face of such things. Do you therefore comfort one another.”

Apparently a bereavement she herself had sustained leads Irene thus to mourn with those who mourn. But how sadly conscious she is of the little she can do! Nothing of the consolation of I Thessalonians iv, 14–18. Nothing of “the comfort wherewith we ourselves are comforted of God” (see II Corinthians i, 4).

A sidelight of a different character is afforded by a specimen of one of the amulets which, as we have seen, the early Christians were in the habit of wearing. This one was discovered by Professor Wilcken, of Leipzig, at Heracleopolis Magna in the year 1899, and is assigned by him to the sixth century after Christ. It was apparently worn round the neck, and may be translated as follows :—

“O Lord God Almighty, the Father of our Lord and Saviour Jesus Christ, and thou, O holy Serenus. I, Silvanus, the son of Sarapion, pray and bow my head before Thee, begging and beseeching that Thou mayst drive from me Thy servant the demon of witchcraft . . . and of enmity. Take away from me all manner of disease and all manner of sickness, that I may be in health . . . to say the prayer of the Gospel (thus): Our Father, who art in

heaven, hallowed be Thy name, Thy Kingdom come, Thy will be done, as in heaven so on earth. Give us to-day our daily bread, and forgive us our debts, even as we also forgive our debtors. And lead us not into temptation, O Lord, but deliver us from evil. For Thine is the glory for ever. . . . O Light of light, true God, graciously give Thy servant light. O holy Serenus, supplicate on my behalf, that I may be in perfect health."

These, then, are specimens of our new discoveries. And enough, I hope, has been said to show of what living and varied interest they are. If they do nothing else, they at least make the past live, and show us in the flesh the men and women amongst whom Christianity found its earliest converts. There may not unnaturally, in view of their romantic character, be a tendency in certain quarters to exaggerate the importance of the new discoveries. At the same time I am convinced that they have a very real message for us, and that the more they are studied the more will they be found to throw light of a very clear and enduring kind on the outward circumstances and conditions under which our New Testament books were written.

#### DISCUSSION.

The CHAIRMAN after the address said: Ladies and Gentlemen, we have had a great treat. We have all learned many things. We have learned what a treasure may be in a broken piece of pottery, and it is a curious thing that the *Palestine Exploration Magazine*, which came out to-day, shows the connection between papyri and ostraka. Mention has been made of a lady's "marriage lines," and all the presents made to her by her expectant husband are named; alongside of this we read of some kindred discoveries made in Gezer in the way of pottery. I am very glad that Dr. Milligan spoke of the "so-called *Logia*," and emphasises the "so-called."

Lieut.-Colonel ALVES asked if the Greek of the New Testament, commonly called "Hellenistic," and which he had seen described as "Greek with three centuries of a Hebrew education," was that of ordinary daily use, as contrasted with that used by the great Greek classic writers.

Archdeacon POTTER asked if the extracts from the Epistle to the Romans and other New Testament writings found in the Papyri supposed to date from the third century have on comparison with our existing MSS. dating from the fourth century, the Sinaitic and

Vatican, been found to agree with them in the main, or are there any important variations ?

Mr. E. R. P. MOON : What were the proportions of literary or non-literary output written, at the period under review, upon vellum and parchment on the one hand, and on papyrus on the other, in Egypt ? ”

Mr. MARTIN ROUSE asked if the Lecturer thought St. Paul's large letters were due to his weakness of sight or tendency to blindness.

In proposing a vote of thanks, Colonel MACKINLAY said : It is my pleasing duty to propose a hearty vote of thanks to our learned lecturer. The Council of the Victoria Institute frequently find a difficulty in obtaining subjects for papers, which are fully in accord with its chief objects and aims, which are to make use of all the available results of science and investigation in the elucidation of the Holy Scriptures.

But the subject this afternoon is most suitable, the handling of it has been extremely interesting and instructive, and we owe a debt of gratitude to Professor Milligan for the great help he has given us. I have much pleasure in moving that we offer him our sincere thanks.

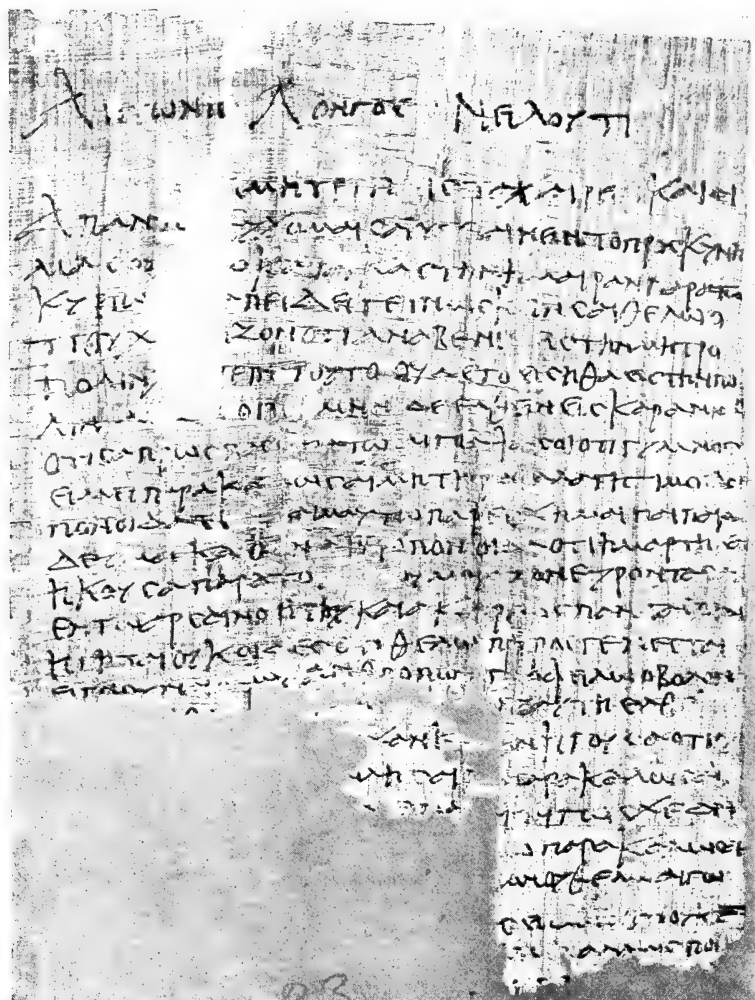
Dr. THIRTLE said : It affords me great pleasure to second the resolution. If in regard to such researches as have been explained this afternoon our obligation to the German scholar, Dr. Deissmann, is great, none the less is it true—and beyond question true—that, as *English* scholars or students, we owe a heavy debt to Professor Milligan. Possibly some who have heard to-day's lecture may not be aware of the devotion with which Dr. Milligan has pursued this subject for many years past. To such, and indeed to all, I earnestly commend his volume, recently issued, *Selections from the Greek Papyri* (Cambridge University Press), a work which should be in the hands of any who require a manual introductory to the important subject now before us. I may also remark that, in collaboration with Dr. J. Hope Moulton, of Manchester University, the Professor has, for several years past, been contributing to *The Expositor* a series of "Lexical Notes from the Papyri"; and thus he has done much to place within reach of students a profoundly interesting body of material, supplemental in a rich degree to that supplied by the best modern Lexicons of the Greek New Testament.

As one who has followed these matters with some diligence, I must confess to a feeling that, in regard to this phase of New Testament study, the present are really good days in which to live! From the most unexpected quarter there has come to us light which invests the study of the New Testament with a new and lively interest—in fact, in some respects, a quite surprising interest. We are now able to lay aside certain lexical helps of a generation ago, which, though ingenious, were largely speculative and far from satisfying, and we have the comfort of placing our feet on the rock-bottom of linguistic assurance. Now, as never before, we are able to study the words of Christ and His Apostles in the light of the every-day life and feelings of the common people to whom their ministry meant so much. And, moreover, we are ever expecting an increase of knowledge from the same quarter—a zest-giving experience to which our fathers and grandfathers were utter strangers.

May I hazard a brief reflection? Surely one message of the Papyri is that the New Testament is a living book—a book of divine instruction, given in human words and phrases. Though there is nothing commonplace about the Gospel, yet it was assuredly promulgated in commonplace conditions. Hence the constituent books of the New Testament were not written by professional scribes and given to the world on material of great commercial value; but rather they were written by men of practical feeling and religious purpose, who sent their thoughts abroad in the simple speech of the people, written on material such as served the work-a-day purposes of non-literary communications. In a word, the New Testament shows itself to be essentially a book for the people—not so much a volume for the library shelf, as a budget of reading for the hands of men and women, to be copied and circulated, to be translated and diffused, even as these operations continually engage the energies of our modern Bible Societies.

Dr. MILLIGAN, in reply, said: I feel that it is I who owe you thanks for listening to me for such a long time. With reference to the questions that have been asked, I may say that Hellenistic Greek is a somewhat vague term, but, generally speaking, it refers to the later Greek that was in use throughout the Græco-Roman Empire at the beginning of the Christian Era. And the important point for our present purpose to notice is, that recent discoveries

have conclusively proved that it was this Greek, not in its literary, but in its more colloquial or popular form, that, as a rule, was used by our New Testament writers. As regards Archdeacon Potter's question, it is the case that our new fragments, so far as they go, in the main confirm the text which we find in the Vatican and Sinaitic Codices. Again, to pass to Mr. Moon's question, I must content myself with saying that, during the period under review, papyrus was undoubtedly the principal writing material in use in Egypt for literary and non-literary purposes. Parchment, though already long in use in a rough form for scribbling and other purposes, does not appear to have been generally employed for literary works till about the fourth century. As to what we are to understand by the "large letters" of Gal. vi, 11, it seems to me that they may be very readily explained as the ruder, less practised writing of the man who wrote but little, as compared with the more cultured hand of the scribe who wrote the body of the Epistle. We have no evidence that St. Paul suffered permanently from defective eyesight. Acts ix, 18, seems to point to a complete cure of the blindness caused by the Damascus vision, and the thorn in the flesh from which he afterwards suffered need not, notwithstanding Gal. iv, 15, have had anything to do with the actual state of the Apostle's own eyesight.



LETTER FROM A PRODIGAL SON TO HIS MOTHER, OF THE SECOND CENTURY A.D. See p. 71.

For the photograph from which this is produced we are indebted to the Director of the Royal Museums, Berlin, to whom our thanks are cordially extended.—Ed.

## 525TH ORDINARY GENERAL MEETING.

HELD IN THE ROOMS OF THE INSTITUTE ON MONDAY,  
JANUARY 22ND, 1912, AT 4.30 P.M.

MR. E. J. SEWELL, MEMBER OF COUNCIL, PRESIDED.

The Minutes of the last Meeting were read and signed, and the SECRETARY announced the following elections :—

MEMBER : Rev. Evan H. Hopkins.

ASSOCIATES : Herman R. Wyatt, Esq., Vernon Roberts, Esq., Miss Sophia M. Nugent, Mrs. C. S. Hogg, Miss Grace D. Gardiner.

The CHAIRMAN in calling upon Mr. MAUNDER to read his paper said: It would be ridiculous for me to propose to introduce Mr. Maunder to any meeting at the Victoria Institute. He is so well known to us all as an active member of the Council and as an untiring and interesting lecturer for the Institute that any introduction is quite superfluous.

The subject on which he is to read a paper is in itself very interesting. But we are accustomed to seeing it dealt with in newspapers and magazines by writers who only half-know what they are talking about and who, consequently, very often much misunderstand the information which they pass on in their articles. It is, therefore, an intellectual treat to have the subject dealt with by a writer who not only thoroughly knows his subject but, as many audiences can testify, has the art of making what he says thoroughly intelligible to people who are unacquainted, or only moderately acquainted, with the technicalities of astronomy and astro-physics.

On subjects such as the conditions of existence on planetary bodies altogether inaccessible to direct observation it is imperative that we should distinguish between (1) known and established facts, (2) inferences of high probability, based on established facts, but still made subject to various assumptions, and (3) speculations as to facts which may possibly be the result of highly hypothetical conditions. Most of those who deal with this subject are unable to keep these three categories distinct, and stumble in the half-light of imperfect knowledge. Mr. Maunder walks with a sure step in the light of clear and definite knowledge, and we are therefore fortunate in having him for our guide.

The following paper was then read by E. WALTER MAUNDER, ESQ., F.R.A.S. :—

*THE CONDITIONS OF HABITABILITY OF A PLANET ;  
with Special Reference to the Planet Mars.*

**T**HE first thought which men had concerning the heavenly bodies was an obvious one : they were lights. There was a greater light to rule the day, a lesser light to rule the night, and there were the stars also.

But with the acceptance of the Copernican theory, this world on which we live, while losing its pride of place as the centre of the universe, from another point of view received a promotion, in that itself it became a heavenly body of the same order as some of those that shine down upon us. And, as the earth is an inhabited world, the question naturally arises "May not these bright lights of heaven also be, like it, inhabited worlds?" There is a strong and natural desire to obtain an affirmative answer to the question ; all men would greatly delight to be able to recognize the presence of races similar to our own upon other worlds in the depths of space.

What do we mean by an "inhabited" world ? We know quite well what we mean by an "inhabited" island. When an explorer in his voyage lights upon a land hitherto unknown, no richness of vegetation, no fullness and complexity of animal life will warrant him in describing it as inhabited. He can only give it that title if he should find men there. Similarly, if we speak of a planet as being habitable, we mean that it is suitable



for the presence of beings that we could recognize as being essentially of the same order as ourselves, possessing an intelligent spirit lodged in an organic body. Animals without intelligence could not be dignified by the title of "inhabitant," nor could disembodied intelligences, such as men have fabled to live in rocks, or streams, or trees—fairies, nymphs and elves and the like—be accurately described by the same term. We may readily imagine that in outward form the inhabitants of another world might differ very greatly from ourselves, but, like us, they must be possessed of intelligence and self-consciousness, and these qualities must be lodged in and expressed by a living, material body. Our inquiry is a physical one; it is the necessities of the living body that must guide us in it; a world unsuited for living organisms is not, in our sense, a habitable world.

What constitutes a living organism? It is almost impossible to give a comprehensive and satisfactory definition, yet we all know some of the chief characteristics of an organism. In the first place it is a machine. Like man-made machines it is a storehouse of energy, but it differs from artificial machines in that, of itself and by itself, it is continually drawing non-living matter into itself, converting it into an integral part of the organism, and so endowing it with the qualities of life, and it derives from this non-living matter fresh energy for the carrying on of the work of the machine. The living organism, therefore, is continually changing its substance, while it remains as a whole essentially the same. As Professor S. J. Allen has remarked: "The most prominent and perhaps the fundamental phenomenon of life is what may be described as the *energy traffic*, or the function of *trading in energy*. The chief physical function of living matter seems to consist in absorbing energy, storing it in a higher potential state, and afterwards partially expending it in the kinetic or active form."

Here is the wonder and mystery of life, the power of the living organism to assimilate dead matter, to give it life, and bring it into the law and unity of the organism itself. But it cannot do this indiscriminately; it is not able thus to convert every dead material; it is restricted, narrowly restricted, in its action.

First of all, living organisms are not built up out of every element; four elements must always be present and be predominant; the four being hydrogen, oxygen, nitrogen, and carbon. The compounds which these four elements form with each other in living organisms are most complex and varied,

and they also admit to combination, but in smaller proportions, a number of the other elements, of which we may take sulphur as an example.

This fact disposes at once of the vague plea which is sometimes raised, "Is it not possible that there may be life upon other worlds under physical conditions totally different from those which prevail here?" We cannot think it, for the evidence of the spectroscope has shown us that the same elements that are familiar to us here are present, not only in our sun, but in the most distant stars. And more than that, the elements have the same properties there as here. For the evidence of the spectrum of a body is evidence of its essential structure, far more searching than any chemical analysis could possibly give; it reveals to us the qualities of its ultimate molecules.

The same elements therefore exist throughout space, and exist with the same qualities. Nor are we able to call into imagined existence other elements of which we know nothing with properties quite unrelated to those of the known elements. For the Periodic Law has shown us that the elements do not exist as isolated phenomena, to which we could in imagination add indefinitely in any direction, but that they are strictly related to each other in all their properties. If, therefore, organic life on another world could be built up of elements other than the four which form its chief basis here, we should have the same phenomenon occurring within our own experience. We may therefore dismiss, as a wholly chimerical hypothesis, the suggestion that the conditions of life as we find them here may be abrogated elsewhere.

What are the conditions of habitability here on this world? They have never been more happily stated than by Ruskin in his *Modern Painters*.

"When the earth had to be prepared for the habitation of man, a veil, as it were, of intermediate being was spread between him and its darkness; in which were joined, in a subdued measure, the stability and the insensibility of the earth and the passion and perishing of mankind.

"But the heavens also had to be prepared for his habitation. Between their burning light—their deep vacuity—and man, as between the earth's gloom of iron substance and man, a veil had to be spread of intermediate being—which should appease the unendurable glory to the level of human feebleness, and sign the changeless motion of the heavens with the semblance of human vicissitude. Between the earth and man arose the

leaf. Between the heaven and man came the cloud. His life being partly as the falling leaf and partly as the flying vapour."

The leaf and the cloud are the signs of a habitable world. The leaf, that is to say, plant life, vegetation, is necessary because animal life is not capable of building itself up from inorganic material. This step must have been previously taken by the plant. The cloud, that is to say water-vapour, is necessary because the plant in its turn cannot directly assimilate to itself the nitrogen from the atmosphere. The food for the plant is largely brought to it by water, and it assimilates it by the help of water. Life on a planet therefore turns upon the presence of water, the great neutral liquid and general solvent, the compound of the two most abundant elements, hydrogen and oxygen. There is no other compound of like properties and simplicity of constitution that could take its place, or that the elements could supply in such abundance. We cannot imagine a world wherein bisulphide of carbon or hydrochloric acid or any other such compound could discharge the functions which water fulfils here. It is, therefore, upon the question of the presence of water that the question of the habitability of a given world chiefly turns. In the physical sense man is "born of water," and any world fitted for his habitation must "stand out of the water and in the water."

Where shall we find such another world? There were two bodies whose surfaces men could study to some extent, even before the invention of the telescope—the sun and the moon. But we are able now to determine the temperature of the sun with some approach to precision, and we know that not only is it far too hot for the presence of vegetation, but it is so hot that oxygen and hydrogen would usually refuse to combine there. The components of the molecules of water would be driven asunder; water would be dissociated. And as with the sun so with all the stars, for they, in various measures and degrees, are all suns. The moon also is without the leaf and the cloud; its surface has been drawn, photographed and measured over every square mile, until the side visible to us has been more thoroughly surveyed than our earth, but it shows us only bare unchanging rock. A man placed there could draw no nutriment from the atmosphere around him, or the soil beneath; no vapour would ever soften the hardness of the heaven above, no leaf the hardness of the rock below.

But what of planets? There may be planets circling round the stars, or there may not be; we have no means of knowing,

and we cannot discuss that about which we are totally ignorant. Our survey, therefore, is confined to the planets of the solar system and we turn naturally to Mars, the one that is next beyond us in distance from the sun, because its position enables it to be easily observed from time to time, and its surface is the one that we know best.

But Mars at its average distance is 140,000,000 miles from us; 34,000,000 miles even at its nearest approach. The mere mention of distances so great, so far beyond our power to appreciate, seems at once to put it out of the question that Mars should be able to offer us any evidence, one way or the other, as to whether it is inhabited by intelligent beings. That we should be able to gather any evidence at all, for or against, is a remarkable achievement.

It is more remarkable still that an able and experienced astronomer should have convinced himself that he has obtained evidence of the actual handiwork upon Mars of highly intelligent and capable beings. This discovery—if discovery it be—is asserted by Mr. Percival Lowell, a wealthy American, who for the last eighteen years has been studying the surface of Mars with the most admirable diligence and skill. According to him, the surface of the planet is covered by a network of very fine lines, looking like the meshes of a spider's web. These lines, popularly known as "canals," are, as Mr. Lowell describes them, so narrow, hard, regular and straight that he considers we are shut up to believe them to be artificial constructions, the work of very intelligent engineers. The points, too, where the "canals" intersect are often marked by dots, usually known as "oases," which are just as regular in their way, being, according to Mr. Lowell, truly circular. And he claims that the object of these two types of structure is quite clear. Five parts out of seven of the surface of our own globe are occupied by our oceans, but on Mars there are no great oceans, and at best only two or three small seas. The store of water on Mars has run low, and Mr. Lowell's theory is that the inhabitants have constructed vast irrigation works, by which the water from one polar cap or the other is brought, as it melts, to lower latitudes. The long, dark lines seen on the planet are not, according to him, the actual "canals" themselves, but the straths of vegetation springing up along their banks. Where several "canals" meet, there a circular area of considerable size is brought under cultivation, and these are the "oases." Clearly such vast engineering works, extending, as they do, to every portion of the planet, could not be carried out without the ordered co-opera-

tion of its entire population. Accepting the argument that the regularity of the "canals" and "oases" proves that they are artificial, we reach the conclusion not only that there are intelligent beings on Mars, but that they must have achieved a complete political unity, and have developed intellectual powers and a command over the forces of nature which far outstrip anything that we as yet have been able to accomplish here.

The study of the surface of Mars goes back almost to the time of the invention of the telescope, the earliest drawing extant having been made in the year 1636. In 1666, Robert Hooke, the Gresham Professor of Astronomy, and Secretary to the Royal Society, detected several dark spots on the planet, and in the same year Cassini discovered that Mars rotated upon its axis in a period of about twenty-four hours forty minutes. The next great advance was made by Sir William Herschel, who during the oppositions of 1777, 1779, 1781, and 1783, determined the inclination of the axis of Mars to the plane of its orbit, measured its polar and equatorial diameters, and ascertained the amount of the polar flattening. He paid also special attention to two bright white spots upon the planet, and he showed that these formed round the planet's poles, and increased in size as the winter of each several hemisphere drew on, and diminished again with the advance of summer, behaving therefore as the snow does in our own polar regions.

The next stage in the development of our knowledge of Mars must be ascribed to the two German astronomers, Beer and Mädler, who made a series of drawings in the years 1830, 1832, and 1837, by means of a telescope of four inches aperture, from which they were able to construct a chart of the entire globe. This chart may be considered classic, for the features which it represents have been observed afresh at each succeeding opposition. The surface of Mars therefore possesses permanent features, and some of the markings in question can be identified not only in the rough sketches of Sir William Herschel, but even in those of the year 1666, made by Hooke and Cassini. In the forty years that followed, the planet was studied by many of the most skilled observers, and in 1877 the late Mr. N. E. Green, Drawing Master to Queen Victoria, and a painter in water-colours with a most delicate appreciation of colouring, made a series of sketches of the planet from a station in the island of Madeira, 2,000 feet above sea level. When the opposition was over, Mr. Green collected together a large number of drawings and formed a chart of the planet

much richer in detail than any that had preceded it, and from his skill, experience and training as an artist he reproduced the appearance of the planet with a fidelity that had never been equalled before and has not been surpassed since. At this time it was generally assumed that Mars was a miniature of our own world. The brighter districts of its surface were supposed to be continents, the darker, seas. As Sir William Herschel had already pointed out, long before, the little world evidently had its seasons, its axis being inclined to the plane of its orbit at much the same angle as is the case with the earth; it had its polar caps, presumably of ice and snow; there were occasional traces of cloud: its day was but very little longer than that of the earth; and the only important difference seemed to be that it had a longer year, and was a little further off the sun. But the general conclusion was that it was so like the earth in its general conditions that we had practically found out all that there was to know: all that seemed to be reserved for future research was that a few minor details of the surface might be filled in as the power of our telescopes was increased.

But fortunately for progress this sense of satisfaction was rudely disturbed. As Mars, in its progress round the sun, receded from the earth, or rather as the earth moved away from it, the astronomers who had observed so diligently during the autumn of 1877 turned their attention to other objects, but one of them, Schiaparelli, the most distinguished astronomer on the continent of Europe, still continued to watch the planet, and as the result of his labours he published some months later the first of a magnificent series of Memoirs, bringing to light what appeared to be a new feature. His drawings not only showed the "lands" and "seas," that is to say the bright and dark areas, that Green and his predecessors had drawn, but also a number of fine, narrow, dark lines, crossing the "lands" in every direction. These narrow lines are the markings which have been so celebrated, I might say so notorious, as the "canals of Mars." The English word "canal" gives the idea of an artificial watercourse, an idea which Schiaparelli himself had no intention of creating: he had called them *canali* or "channels," and it is quite possible that the controversy as to their nature, which has been carried on for so many years, would never have arisen but for the unfortunate mistranslation into English of the *canali* as "canals."

Yet the controversy itself has not been unfortunate, for it has focussed attention upon Mars in a way that perhaps nothing else could have done, and since 1877 the most powerful telescopes

of the great public observatories of the world have been turned upon the planet, and the most skilful and experienced astronomers have not been ashamed to devote their time to it.

There is no need to attempt to review the immense mass of observations that have been accumulated in the last thirty-five years. We may take as representative of the two parties in the controversy Mr. Lowell himself, who has observed Mars with such perseverance for the last eighteen years, on the one side, and on the other, M. Antoniadi, an architect by training and an astronomer by genius, who has even a longer record to show.

In the opposition of 1909, Mr. Lowell was observing Mars from his observatory at Flagstaff, Arizona, a site carefully chosen by himself for the good definition obtained there, while M. Antoniadi had the use of the great 33-inch refractor of the Meudon Observatory, near Paris. The former showed the planet as covered with a perfect network of "canals," which he describes as "narrow regular lines of even width throughout, running with geometric precision from definite points to another point where an oasis is located." These canals are drawn as following the arcs of great circles, and sometimes extend almost half round the planet, disregarding all inequalities of surface, and Mr. Lowell speaks of them as being so straight that in a drawing they have to be put in by the aid of a ruler, a freehand line not being straight or uniform enough. M. Antoniadi, on the other hand, though he shows "canals" of a kind, shows them as streaks, that is to say, they have not the hardness, the narrowness, or the uniformity of Mr. Lowell's representations. They are not mere geometrical lines, but have characteristics of their own; there is no trace of any geometrical network, looking like the figure of a proposition in Euclid, and M. Antoniadi is quite clear that such network does not exist. Yet his drawings show an immensity of fine detail, much of which escaped the scrutiny of Mr. Lowell.

Within the last few years it has been found possible to enlist the services of photography in this connection. The difficulties of doing this can only be appreciated by those who have actually attempted it. First of all, the size of the image of the planet depends upon the focal length of the telescope, and at a good opposition the diameter of the image of Mars formed by a mirror or object glass is just one ten-thousandth part of that focal length. In other words, a telescope one hundred inches long, that is 8 feet 4 inches, would give an image only one-hundredth of an inch in diameter, a mere pinpoint. If, however, we desire the image to be only one-

fifth of an inch in diameter, the telescope would have to be 167 feet in length. At Mount Wilson a telescope has actually been constructed with an equivalent focal length of 150 feet; if this were mounted like an ordinary telescope, it would be impossible to give it the necessary rigidity, and any wind would set up tremors in it which would be fatal to the chance of securing good photographs. But by firmly fixing the telescope and reflecting the light from the planet into it, from a moving mirror, this difficulty has been overcome. At the Yerkes Observatory and at Mr. Lowell's smaller telescopes have been used and the image of Mars has been enlarged afterwards. But though a wonderful success has attended these efforts of Mr. Lowell and of Professors Barnard and Hale, the photographs have not settled the controversy. Mr. Lowell finds "canals" on his photographs, though it must be added that in appearance they are more like M. Antoniadi's representations than Mr. Lowell's own drawings. Professor Barnard's photographs, which appear to be the best that have yet been secured, show, on the other hand, nothing that is canaliform, but they reproduce most closely the beautiful paintings made by the late Mr. Green, thirty-five years ago.

The actuality of the "geometrical network" is, therefore, still in dispute; is there anything about the planet that is not in dispute?

Two facts about the planet had been ascertained long before the invention of the telescope: its distance from the sun as compared with that of the earth was known to be more than half as much again. This implies that it receives from the sun only three-sevenths the amount of light and heat, surface for surface, that the earth does. The length of its year was also known: it is much longer than that of the earth, being only six weeks short of two full terrestrial years; expressed in days, it is 687 as compared with our  $365\frac{1}{4}$  days.

Since the invention of the telescope the distance of Mars from the sun has been measured, not only relatively, but in miles, and the size and weight of the planet have been determined. The latter was inferred from the movements of the two tiny satellites discovered in 1877. We know that Mars is but little more than half the earth in diameter; in volume it is only about one-seventh; and in mass only one-ninth that of the earth. Its density, therefore, is about five-sevenths of the earth, and the attraction of gravitation at its surface is not much more than one-third as much as it is here. On the earth a falling weight will pass through sixteen feet in the first second;



the same object on Mars would only pass through six feet in the same time; consequently, all movements on Mars that are the effect of gravitation are much slower than they are here, and this implies that its atmospheric circulation must be sluggish. The late R. A. Proctor, unequalled in his day as a popular writer on astronomy, made one of his few mistakes when he described Mars as a planet swept by hurricanes. The less the attractive power of the planet the more languid must the movements of its atmosphere be; we know with certainty that there are no hurricanes on Mars.

The feeble action of gravity has another effect. On the earth if we ascend some three and a third miles, say about as high as the top of Mont Blanc, we find that the barometer reads just half of what it does at the sea level; half the atmosphere has been passed through. At double that height the pressure would be halved again; it would be only one-quarter of that at sea level. On Mars the level of half pressure will be at nearly nine miles from the surface, and of quarter pressure at nearly eighteen miles. This relation we may briefly express by saying that the barometric gradient is much steeper for the earth than for Mars, and it follows that however thin and rare the atmosphere may be at the surface of Mars, yet at only a few miles height the pressure must be the same for the two planets, and above that height the pressure for Mars would be the greater.

It is quite clear that Mars has not much atmosphere; its surface markings are seen far too distinctly for it to be possible to suppose that we view them through anything like the amount of air that exists above the earth; indeed it is very doubtful whether an observer on the planet Venus could make out anything of our geography through the veil that our atmosphere spreads round us. It is generally supposed that the atmospheric pressure at the surface of Mars may be about one-seventh of that on the earth, equivalent to the sort of atmosphere that we should find about nine miles high above the earth. This would be about the atmospheric density that Mars might claim if atmospheres were dealt out to planets in proportion to their masses. But it appears probable that with planets as with people, the strongest get the lion's share; to those that have it is given, and from those which have not, even that which they seem to have is taken away. The above estimate, therefore, must be taken as the highest possible, probably much higher than the fact; for a little planet like Mars cannot have the power of acquiring or retaining an atmosphere possessed by so much heavier a globe as the earth.

These are the two chief factors regulating the condition of a planet; the amount of light and heat received by it, and the density and distribution of its atmosphere. Within the limits of the solar system the first depends upon its distance from the sun; the second upon the size and density of the planet itself.

There is a simple way by which we may take a first step towards appreciating the result of the greater distance of Mars. If we take the earth at one of the equinoxes we shall find that as much light and heat from the sun falls upon three square yards at the equator as falls upon seven in latitude  $64\frac{1}{2}^{\circ}$ . This difference is, of course, due to the angle on which the higher latitude is presented to the sun, and we find that while the mean temperature at the equator is about 80 degrees Fahr. that of latitude of  $64\frac{1}{2}^{\circ}$  is quite 50 degrees lower. As the mean temperature of the earth as a whole is about 60 degrees, we should from this way of looking at the problem take the mean temperature of Mars as about 10 degrees, that is to say, 22 degrees below freezing point. So far then Mars would seem to be as much worse off than the earth, as a place within the Arctic Circle is worse off than the equator, but we have to add the further drawback that, owing to the thinness of the atmosphere of Mars, we should have to select within the Arctic Circle the top of a mountain ten miles high to compare with a station on the sea level at the equator.

But we have omitted as yet a number of considerations all of which tend in the same direction, and all against the habitability of the planet. Five-sevenths of the surface of the earth is covered with water, and water is the great equaliser of temperature. The atmospheric circulation of the earth, too, is quick and efficient, so that our equatorial regions are much cooler, our polar regions much warmer than they would be if the air and water of the earth were stagnant. It is probable that the difference in temperature between the equator and latitude  $64\frac{1}{2}^{\circ}$  would be quite doubled if it were not for the equalising influences of our atmosphere and seas, and that we ought to put the mean temperature of Mars as 100 degrees below that of the earth. Professor Poynting, by another method, has reached the same figure, and puts it as 40 degrees below zero, the freezing point of mercury.

Hardly less important than the mean temperature of a planet is the range of temperature. At Greenwich the mean maximum day temperature for the middle of July is about 75 degrees, the mean minimum night temperature for the middle of January is

about 33 degrees, a range of 42 degrees. This range is not that between the very highest and lowest temperatures ever recorded, but the average range between the hottest part of the day in summer and the coldest part of the night in winter. Britain is however an island, and the surrounding ocean tempers our climate and contracts the range of temperature very greatly. A continental climate in the same latitude would show a range about twice as great.

This range of temperature is, on the average, smallest at the equator, greatest at the poles; the length of the day and night being invariable at the equator, while at the poles there is but one day and one night in the whole year. The range therefore increases with the latitude. On Mars, where the year is nearly twice the length of ours, the range from equator to pole must be much greater than on the earth; the more so that the absence of oceans and the sluggishness of the atmospheric circulation would leave unmodified the full effect of a polar day and a polar night each almost as long as a complete terrestrial year.

The range in any particular latitude would also be greater than on the earth. We know that during the night the earth radiates into space the heat which it has received from the sun on the previous day, and the rarer and drier the air, the more rapid the fall of temperature. But the Martian air is so thin that during the day it offers no hindrance to the heating effect of the sun's rays upon the soil, and during the night little or no hindrance to radiation; it cannot play the part fulfilled by the earth's atmosphere of imparting heat that it has gathered during the day to the soil during the night. The conclusion therefore reached by the late Professor Newcomb is generally accepted by astronomers, that "during the night of Mars, even in the equatorial regions, the surface of the planet probably falls to a lower temperature than any we ever experience on our globe. If any water exists it must not only be frozen but the temperature of the ice must be far below the freezing point." During the night of the polar regions, the temperature of Mars must closely approach the absolute zero.

But though this is the case, and the mean temperature of Mars even in the equatorial regions is below the freezing point of water, yet, owing to the wide range of temperature, due to the rarity of the atmosphere, it is probable that the maximum temperature at noonday in summer time for any particular latitude does not differ very greatly from that experienced in similar latitudes here. And it is just those regions of the planet which are enjoying noontide in summer which are most

favourably presented for our inspection. We see that part of Mars which is at its best.

But, as we have seen, the habitability of a world turns upon the presence and abundance of the compound water in the liquid state. Here water melts at 32 degrees and boils at 212 degrees; through a range of 180 degrees it is in the liquid state. And the mean temperature of our planet, and of all latitudes outside the polar circle, is above the freezing point and far below the boiling point. Water with us, therefore, is normally a liquid. On Mars the boiling point can only be about 80 degrees above freezing point, so that the range within which water can exist as a liquid is very small. But the mean temperature of the planet as a whole, and of every latitude in particular, is much below the freezing point: the normal condition of water there is that of ice, and it is impossible for it to fulfil its great function of enabling organic life to receive nutriment. The noonday temperature may indeed rise high above the freezing point; may even reach the boiling point; but this can only suffice to melt a thin film of the surface ice. As Professor Newcomb puts it: "The most careful calculation shows that if there are any considerable bodies of water on our neighbouring planet they exist in the form of ice, and can never be liquid to a depth of more than one or two inches, and that only within the torrid zone, and during a few hours each day."

Since the atmosphere is so thin and so little water is at any time above the freezing point, there can at no time be any great depositions of snow or rain. The polar caps, therefore, cannot be vast accumulations of snow, but at the best a thin deposit of hoar frost. The winters on Mars are seasons of what we should call "black frost"; intense cold with but a very slight precipitation of water vapour.

It is doubtful, therefore, if there can be organic life of any kind: certainly, no life so highly organized as to deserve the title of "inhabitant." But it is conceivable that there may be some low form of plant, or perhaps even of animal life, capable of coming into activity, maturing and reproducing itself within the warmer hours of a Martian day, and of passing the night in the form of spores. During the iron nights of Mars, even in the tropics, it is not possible to conceive of life existing except in embryo.

And since there is no water to flow, there can be no water-courses, natural or artificial. How is it then that Mr. Lowell and his supporters see and draw this network of lines that looks

so artificial? And why is there this discordance between his observations and those of other astronomers at least as skilful and experienced, and with equipment certainly not inferior?

The "Ancient Mariner," in Coleridge's poem, describing the approach of the phantom ship to the "Wedding Guest," says:

"At first it seemed a little speck,  
And then it seemed a mist,  
It neared and neared, and took at last  
A certain shape, I wist.  
A speck, a mist, a shape."

There could scarcely be a neater way of stating the solution of the problem. When the phantom ship was first detected on the horizon it was too far off to give any idea of form or outline. It was unmistakable that something was there, but the Ancient Mariner could see nothing but a "speck," a round dot; it was too far off to show any detail; the details were all averaged out, and it formed a minute circular spot.

And then it neared, and it was clear that it had details, but what they were the Mariner could not say; it was an ill-defined, shapeless object, "a mist." And again it neared, and then it began to take a "certain shape"; he could recognize the hull, the mast, the spars.

In 1830, the two German astronomers, Beer and Mädler, observing Mars with a telescope of 4 inches aperture, frequently drew two round spots on the planet, exactly the same size and exactly the same shape. Thirty-four years afterwards those spots were drawn by Sir Norman Lockyer with a telescope of 8 inches aperture, but neither of them was round, and they bore no resemblance to each other. A few years later Schiaparelli drew them with a telescope of 18 inches aperture, and both spots were then full of minute detail, and more unlike each other than ever. In 1909, M. Antoniadi observed both regions with a telescope of 33 inches aperture and added yet more detail and further increased their unlikeness. Now these changes in the representation of the planet are not due to any change on the planet itself. An observer coming fresh to its study and having a telescope of only 4 inches aperture, will see exactly what Beer and Mädler did under the same conditions—two round dots exactly alike. But if he carefully train himself, and increase the size of his telescope, then, granted he possesses the eyesight and skill of the astronomers I have mentioned, he will give us in succession views that practically correspond with those of Lockyer, Schiaparelli and Antoniadi. The increase in telescopic power

has produced a change equivalent to the planet having "neared and neared."

A telegraph wire against the background of a dull sky can be perceived with certainty at an amazing distance, the limit being reached when the wire subtends a second of arc, or in other words when its distance from the observer is two hundred thousand times the thickness of the wire. But though this is quite unmistakable perception, it is not a defined image that is formed. If a bead be put upon the telegraph wire, the bead must be more than thirty times the breadth of the wire to be perceived, and some sixty or seventy times the breadth of the wire before it could be fully defined, so that the observer could distinguish between a bead that was square, round or any other shape, the area of its cross-section being supposed to be the same in each case. But between the limits of one second of arc and sixty seconds of arc, all minute objects, whatever their shape or discontinuity, must take on, in the observer's eye, the two simplest possible geometrical forms, the straight line and the round dot. Here, and not in any gigantic engineering works, is the explanation of the artificiality of the markings on Mars as Mr. Lowell sees them; their artificiality disappears under better seeing with more powerful telescopes.

The existence of water in the liquid state is the chief condition for habitability of a planet; and this we have seen depends upon the size and density of the planet, on the one hand, and its distance from the sun, on the other. Applying the criterion to the planet Mercury, we find that on the average it receives six and a half times as much heat from the sun as the earth does, but from its small size, its atmosphere must be rarer even than that of Mars. The range in temperature from day to night must be extreme, and water can usually only exist as vapour on the side turned to the sun, and as ice on the side turned from it. But there is little doubt that Mercury always turns the same face to the sun, even as the moon turns the same face to the earth, and this condition alone is sufficient of itself to render Mercury uninhabitable.

In the case of Venus we have a world not very much smaller than our own. The force of gravity is about seven-eighths that on the earth, and the atmospheric density probably about three-quarters. These are not important differences, and though Venus receives almost twice as much light and heat per unit of surface, it is possible that the immense amount of cloud with which its atmosphere is filled may make a sufficient screen. The probability is that ice is comparatively rare on Venus, but that

its atmosphere is heavily charged with water vapour, and that its climate may not greatly differ on the average from those of certain moist climates within the torrid zone of the earth.

But the cloudy atmosphere of Venus renders it practically impossible for astronomers to be sure that they have ever seen the permanent markings of its surface, and one great question remains without any certain answer as yet. This is whether Venus, like Mercury, rotates in the same time as it revolves round the sun, or like the earth in about twenty-four hours. In the former case one hemisphere would be perpetually exposed to unendurable heat and the other to unendurable cold, and Venus would be as uninhabitable as Mercury. Yet Schiaparelli and many of our best observers are convinced that this is the condition that actually prevails. Personally I doubt if the evidence is as yet sufficient to warrant us in drawing an assured conclusion, and I am inclined to think that Venus may be rotating in much the same period as the earth. If this be so, then so far as we know, Venus may be a habitable world. Whether it is actually inhabited is a matter entirely beyond our knowledge.

The outer planets need not detain us. The spectroscope shows us distinctly that Jupiter, Saturn, Uranus, and Neptune all have a considerable amount of native heat, and our observations of Jupiter make it clear that it is still in a condition of constant commotion. Of all these four planets it is improbable that a solid crust has yet begun to form, or water to deposit in the liquid state. They may be better described as small, undeveloped suns than as great, highly developed earths. As for their satellites, though several are larger than the moon, they are all smaller than Mars, and therefore cannot come up to the standard required of a habitable world.

So in our own system we have found that there is one planet, our earth, that is inhabited, and one other that may perchance be habitable; the others may with certainty all be ruled out of court.

We have learnt more. In any system where there are planets revolving round a central sun, the range of distance from that central sun, within which a world must revolve to be habitable, is very restricted, and even within that range of distance the size and density required for that world is very restricted also. The probability, therefore, in any particular case is against a given system containing a habitable world. But systems of two suns or of more, as so many of the stellar systems are, seem quite unfitted to sustain life on their

attendant planets. The conditions which would result would be far too unstable and irregular for the nurture and maintenance of living organisms.

Under the Ptolemaic theory the earth was regarded as the centre of the universe. The work of Copernicus deprived it of this pride of place, but exalted it to the rank of a heavenly body. There it seemed to be one of the smallest, most insignificant of its compeers. But I think if we have reasoned aright this afternoon we see that it has a claim to a higher distinction than size or brightness can possibly give it; it is almost certain that it is unique amongst the heavenly bodies that are visible to us, and amongst those that are unseen and unknown there can only be a small proportion, at best, so well favoured. It is the home of life, carefully fitted and prepared for that purpose by its position and its size.

That it has been built upon this scale, that it has been given this place, are not these tokens of purpose and design? And though it be little amongst the worlds, a little member of a comparatively little system, can we doubt what that design and purpose was? The Wisdom of God Who was with Him "when He prepared the heavens, when He set a compass upon the face of the depths, when He established the clouds above, when He strengthened the fountains of the deep, when He gave to the sea His decree that the waters should not pass His commandment, when He appointed the foundations of the earth," desired that, as "the Word made flesh," He might "rejoice in the habitable part of His earth, and have His delights with the sons of men."

#### DISCUSSION.

The CHAIRMAN said: As regards the very much debated point of the markings on Mars, which have been called by the question-begging name of "canals," Mr. Maunder's proof that the name is due to a mistranslation of Schiaparelli's Italian word "canali" is only another instance of the influence of names over thought.

It is impossible to doubt that much of the speculation as to the nature of these markings would either never have come into existence, or would have taken an entirely different line, if they had been called simply "markings" instead of "canals."



As he tells us, the measurement of these markings shows them to be many miles in width, and thousands of miles in length; the explanation that the sharp edges of the markings show them to be channels of artificial construction must therefore be abandoned, and has been abandoned. As Mr. Maunder tells us they are now explained as "straths of vegetation springing up along the banks" of such channels. But this second explanation of the markings seems to me plainly inconsistent with the observed facts. These are that the edges of the markings are (1) sharp, and (2) parallel. But anyone who has seen, in India, cultivation carried on along the banks of channels by means of the water contained in them must have observed that the edges of such cultivation are not sharp, but very ill-defined; and are never parallel. The reasons are plain: there is always water enough for keeping the crop alive close to the bank, but as you go further back from the bank the supply of water diminishes, and it more and more frequently happens that the cultivation at the outer edges has water enough to begin with and therefore starts to grow, but as the season goes on and the water supply falls, the growth at the other edges withers and dies for want of water. In the second place, unless the supply of water at the head of the channel is absolutely uniform from year to year, the strip of cultivation is wider in a year of abundant supply and narrower in a year when the supply is smaller. But the supply of water produced by melting snow-caps at the poles of Mars is very unlikely to be absolutely uniform from year to year, and if the markings were due to cultivation (or vegetation) produced by such melting snow, we ought to see the markings vary in width from year to year. This has never been observed.

Finally, the edges of such cultivation (or vegetation) are never parallel. The reason is quite plain. Near the source of supply, at the head of the channel, the water is abundant, and owing to the fall of the ground along the banks can be carried by the necessary subsidiary channels to a great distance. As you go lower down the channel, the drawing-off of much of the water has greatly diminished the supply to start with, and the decrease in level of the point from which the subsidiary channels start greatly diminishes the distance to which the water can be got to flow along them. The consequence must be (and, as every observer can testify, actually is) that the cultivation (or vegetation) along the banks of a channel tapers down

from a considerable width near the head (or source of supply) to a very narrow strip at the end of the channel where the water has all been used up above. And again, for the reason mentioned before, the length of such a strip of cultivation will vary from year to year. In a year of abundant supply the water will suffice for cultivation further down the banks of the channel than in a year of short supply, so that such a strip of cultivation will shrink, in length as well as in width, from year to year.

This also is not in accordance with the observed behaviour of the "canals" of Mars.

I think, therefore, that the explanation of these markings as a strip of cultivation (or vegetation) due to the channel water does not at all fit the observed facts.

Mr. MARTIN ROUSE said: With illustrations as ample and convincing as they were beautiful and with the very clearest logic Mr. Maunder has proved that men and animals with organization and natural functions like those we know upon the Earth cannot exist in Mars. And yet the objection arises, for what purpose have Mars and other planets been provided with satellites and other devices which must supplement the light that they receive from the sun, and perhaps equalize the heat also, and which appear to do so all the more as their distance from the sun is greater. Understanding that Mercury had a cloudier atmosphere than Venus (though to-day's lecture has rendered me a little doubtful of this), I have seen a complete and beautiful gradation thus: next to the sun comes Mercury with a very cloudy atmosphere, then Venus with a clearer atmosphere but no moon, then the Earth with a still clearer atmosphere (as we learn to-day) and with one moon, then further out Mars with a thin atmosphere (as we learn) and two moons, then far, far out Jupiter with eight moons, and then Saturn with ten moons and a vast luminous ring besides. As for Uranus and Neptune they are probably too far away and minute in appearances for astronomers to have yet discovered how many satellites or rings they may have.

Surely this supplementation of light and probably of heat also cannot have occurred by mere chance; and if the planets are not already habitable may they not have been intended to become so at a time yet future?

Mr. J. T. MATTHEWS said: I came to this meeting hoping that Mr. Maunder would tell us something about life upon other worlds,

and I have been much disappointed that he has rather taken the other line, and argued that there are very few, if any, inhabited worlds other than our own. Surely all the millions of stars which the telescope shows us were not created without some purpose; may they not have planets revolving round them that we cannot see and of which we knew nothing? And of the planets in the solar system, may there not be forms of life quite unlike those with which we are familiar that would flourish under such conditions that they offer? Why should we think that water is the only liquid that can support life?

A MEMBER asked: Might not life be possible on Mars near the edge of the polar caps since, when the ice is melting, there would be abundance of water there?

Mr. SCHWARTZ said: Mr. Maunder has given us an interesting paper but I fear that he has taken a rather prejudiced view of the question. Mr. Maunder says on the first page that all men would greatly delight to be able to recognize the presence of races similar to our own upon other worlds; I rather think myself that the reverse is the case. Then, again, I think Mr. Maunder was quite unwarranted in assuming that we know all the elements that exist. Up to a very few years ago we knew nothing of helium beyond the bright line which it showed in the solar chromosphere; now it has been discovered on the Earth. Nearly one-third of the dark lines of the solar spectrum are not yet assigned to any element known to us on the Earth, and several terrestrial elements have not yet been identified in the sun.

Mr. D. HOWARD said: Mr. Maunder's paper is specially interesting as an example of accurate scientific thought applied to a question generally discussed only from a popular point of view. He has shown us exactly what the conditions must be on Mars and they certainly are incompatible with organic life.

The history of the canals is a very curious one and shows the difficulty of accurate observation even for skilled observers. I am afraid we must still be content to doubt what the markings on Mars are and still more what they are caused by, but if highly organized life is impossible on Mars they cannot be the result of the labours of Martians.

Let us always beware of "must be's." "There must be inhabitants of the planets, or if not what use are they."

That they are of use there is no doubt, but study of facts and not imagination is the only way to find out even partially what that is.

And beware of Final Causes as a basis of argument; Lord Bacon well described them as "Unfruitful Virgins."

Mr. MAUNDER, in replying, said: I am exceedingly indebted to the Meeting for the very generous reception which has been given to my paper. My purpose throughout has been to confine myself to the region of observed facts and not to enter upon vague, general and unsupported speculations. Mr. Rouse asked if the fact that the number of satellites appeared to increase as we went outwards from the sun did not look as if the outer planets were intended to be inhabited in the future, if they were not inhabited now? In reply to this it should be borne in mind that our moon was the only satellite in the solar system that was of any serious service as a light-giver. The moons of Mars would not together afford one-fourth the light, or those of Jupiter one-tenth, to their respective primaries that the moon gives to the Earth; and these satellites usually suffer total eclipse when they are at the full. It hardly looks, therefore, as if they have been designed for the purpose of supplying the deficiency of sunlight. I greatly sympathize with Mr. Howard's wise advice that we should beware of making assumptions as to the purpose of any particular structure. It reminds me very much of what Galileo wrote in his Dialogue of the "Third Day," the Dialogue which brought his condemnation. He puts into the mouth of Saviati the words, "Methinks we arrogate too much to ourselves, Simplicio, when we assume that the care of us alone is the adequate and sufficient work beyond which the Divine Wisdom and Power do nothing and dispose of nothing." And may we not look at the question from another point of view? We know that many millions of acorns fall every year, but only a very few grow up into oaks, so if, in the gradual evolution of the solar system one planet and one planet alone has been rendered fit to bear life, can we in any sense say that the material of the solar system has been wasted? Mr. Schwartz thought that I was prejudiced when I said that there was a strong and natural desire amongst men to be able to recognize the presence of similar races in other worlds; and he denied that such a desire existed. I think, however, he showed pretty clearly that he himself felt this desire, and that his real objection to my paper was that I showed

that there were few facts to satisfy that desire. Mr. Matthews asked whether there might not be to many of the stars planets that we cannot see and know nothing about, and whether there might not be life upon these. Perhaps so, but as we know nothing about them we cannot discuss the conditions of life there. It was again inquired whether some liquid other than water might not form the basis of life on some other worlds. But we find water admirably fitted for its purpose on this world; and we know of no other liquid that could take its place. If some other liquid could better fulfil the functions performed by water we might reasonably ask why that liquid has not fulfilled that purpose here. Such an assumption would imply, moreover, a faulty design in the creation of the Earth. It is probable that at one portion of the year on Mars, the edge of the ice-cap is more plentifully supplied with water than any other part of the planet, but for a period longer than an entire terrestrial year that region is in total darkness and exposed to the cold of space. It is far less likely to be inhabited than the equatorial regions.

Mr. BISHOP asked: Would you tell us whether you think the other planets may be habitable in the future?

Mr. MAUNDER: That question, of course, leads us far into the unknown, but the great difficulty in the case of the outer planets is that they receive so little heat from the sun at the present time, and no way by which that heat can be greatly increased in the future is obvious to us at the present. My desire in pointing out how stringent were the conditions for life as we see them to be here, was not to call in question purpose and design in the formation of other worlds, but to emphasize the evidence that we have of purpose and design in the formation of this world.

Communication from Rev. A. IRVING, D.Sc., B.A. :—

Being unable to attend the Meeting on January 22nd, I beg to offer one or two remarks upon this very able paper. I greatly appreciate this closely reasoned paper from an expert in Astronomical Science. It is to be hoped that it may be the prelude to a more sane and sober way of dealing with matters of which we have no positive knowledge; and I think we may go entirely with the author in his conclusions as to the limits of possibility of the "habitability" (as he has defined the word) of either the innermost planet, Mercury, or the four great outer planets of our

solar system, which seem to record phases of planetary development, through which (in its "pre-oceanic stage") our Earth has already passed, owing to its much smaller mass, and therefore the more rapid dissipation of its heat-energy into the "entropy" of the universe, as Clausius uses that term.

There is one point on which Mr. Maunder has not touched at any length, namely, the probable disappearance of much of the quondam hydrosphere of Mars into the lithosphere, such as Professor Federico Sacco, of Turin University, foreshadows for our future Earth, in his most interesting and instructive essay, *L'orogénie de la Terre*, which does not seem so widely known as it should be to our English astronomers and geologists.

"Life," we must recollect, is known to us on this Earth only in its manifestations: and we are in blank ignorance of what it is *per se*: an ignorance of which we feel the more profoundly conscious since the appearance of Professor Bergson's monumental work, *Creative Evolution*. I observe that Mr. Maunder does not attempt to dogmatize as to the limits of possibility to "Creative and Directive Power" in that direction; but in the sense in which he has defined the term "habitability," we can, I think, follow him. We do well, however, to recollect that "Creative Evolution" has the whole *duration* of eternity as well as limitless space for its operation.

There is just one little point which seems to me open to criticism in the paper, when on p. 79 the author speaks of a "man-made machine" as a "storehouse of energy." I think we can hardly say that. A contrivance it is (from the simple lever to the steam-engine or aeroplane)—a contrivance directed to certain ends for *accumulating and directing energy* (thus converting "energy" into force); but we can hardly say that the energy is stored in any permanent sense, even in the electric accumulator. We are confronted here, again, with the fundamental distinction between *organism* (in which the energy acts from within, under the vital directive action) and an *inorganic structure*, which cannot supply its own energy, even though the materials in which that energy is potentially stored may be ready to hand, as in the fuel of the steam engine, or the mineral elements of the cells of an electric battery.

It may seem ungracious to offer even this small criticism on a paper in which generally everything is so well put, and especially in

the two last paragraphs, in which the author seems to be working towards a philosophical centre, from which we may be able to see the teachings of Science and Revelation in one common perspective.

Communication from SYDNEY T. KLEIN, Esq. F.L.S., etc. :—

The Institution is to be congratulated on having such an expert as Mr. Maunder to tell us the latest phase of the old controversy as to the existence of life upon the planets ; there is no astronomer living who has done more in the way of popularizing the Science of Astronomy than Mr. Maunder has done, especially in his connection with the British Astronomical Association ; he is indeed a worthy successor of Richard A. Proctor, and his present paper will be highly appreciated by our members. I have been much interested in the paper and especially his remarks on the planet Mars.

The writer of the paper seems to have restricted himself to the question whether the planets are inhabited *now*, he does not touch upon the larger question whether they may have been inhabited in the past or may in the future be the abode of sentient beings similar to ourselves ; now this is rather an important point, especially when the argument tends, as it does in the paper, to suggest that one particular world only, namely the Earth, has been prepared by *design* to be the home of man. The planets of the solar system are *all* in different and distinct stages of what may be called growth in preparation for life, such giant and remote planets as Jupiter, Saturn, Uranus, and Neptune have not yet reached or are only just arriving at the stage of consolidation, a stage which the Earth went through probably fifty million years ago when the moon had its birth ; whereas, on the other hand, Mars, Mercury and the moon, having small masses, have progressed faster and are probably in a stage well in advance of the Earth ; whilst Venus, of practically the same mass as the Earth, although about one-fourth nearer to the sun, has so dense an atmosphere that her physical conditions are probably very like our own and her organic life similar to ours.

With regard to the so-called "canals" in Mars, I think Mr. Maunder was the first to point out that if you place a number of black dots on a white card and look at it from a long distance, the eye at once forms lines of those dots, and this is probably the true explanation of what Mr. Lowell claims he saw, and that it was upon these pseudo-perceptions that he made his wonderful drawings ; there were certainly no such canals shown on the photographs he

brought over and which many of us examined very minutely without finding any trace of his network of canals, and as pointed out by Mr. Maunder, the larger the telescopes used the less did the markings have the appearance of straight lines; the controversy certainly took a humorous turn worthy of Punch, when the advocates for the canal theory actually propounded the extraordinary theory that "many of the telescopes were too large to show such small markings."

Mr. Maunder truly points out that under certain conditions of temperature, as are found in the earlier stages of the formation of a world, the basis of living matter, as we know it, in plant and animal structures, namely protoplasm, could not exist, but he also states that among other worlds in the universe there can only be a small proportion, at best, so well favoured as our Earth for sustaining life; now we find by means of the spectroscope that each of the atoms comprising that protoplasm, namely, oxygen, hydrogen, carbon and nitrogen, are identically the same throughout the whole universe, whether we observe them here in our laboratories or when situated at the very limit of our perception, through the greatest telescopes; we also know that though each atom is continuously pulsating and clashing with others billions of times per second, they show absolutely no signs of wear or diminution in activity in a million years, for we can examine side by side two sets of say hydrogen atoms, one of which is a million years older than the other; the atoms we examine here are, in time, a million years in advance of those we examine through our astro-spectroscope, as we are seeing these latter atoms only as they were a million years ago, and yet wherever we turn to in space we find this hydrogen atom and all other atoms identical to those not only in the sun, but in our surroundings on this little Earth; we also see the same *forces* at work in the far off nebulae as we are experiencing in this little corner. Does not this wonderful proof of unity of design throughout the whole visible universe force upon us the conviction that round each of the myriads of other stars in our star cluster, of which our sun is one, and probably round the suns in countless other star clusters, are planets in the course of preparation for sustaining life, life probably, as Mr. Maunder points out, based upon protoplasm as we know it, but possibly under conditions absolutely beyond conception from our present restricted outlook.



526TH ORDINARY GENERAL MEETING.

MONDAY, FEBRUARY 5TH, 1912, 4.30 P.M.

DAVID HOWARD, ESQ., VICE-PRESIDENT, IN THE CHAIR.

The Minutes of the preceding Meeting were read and confirmed.

Announcement was made of the election of the following :—

MEMBER : Mrs. Brocklebank.

ASSOCIATE : J. Bancroft-Hill, Esq. (a Life Associate).

Owing to the Author's inability to be present, the CHAIRMAN called upon the SECRETARY to read the paper, entitled :—

*THE HISTORICITY OF THE MOSAIC TABERNACLE.*

By the Rev. Professor JAMES ORR, D.D.

**I**T has come to be regarded as a truism by the newer school of Old Testament criticism that the tabernacle described in Exodus xxv ff. and xxxv ff., as set up by Moses in the wilderness, is unhistorical. It never had a real existence, but is a devout imagination spun from the brains of post-exilian scribes. It is but the Temple of Solomon "made portable," halved in dimensions, and carried back in fancy to the time of the wilderness wanderings. It belongs, critically speaking, to the document P, or Priestly Writing, which, originating after the exile, is of no authority as a picture of Mosaic times. It is not denied that there was a tent of some simple sort as a covering for the ark—rather, perhaps, a succession of tents—and evidence of this is thought to be found in the mention of such a tent in the narrative of E, the Elohist, in Exodus xxxiii, 7 ff., with later notices in Numbers xi, 16, 24 ff.; xii, 1 ff.; and Deuteronomy xxxi, 14 f. Everything in these older descriptions, it is said, is of a simpler order. The tent is

pitched outside the camp, not within it; the purpose is revelation, rather than worship; there is no ministering priesthood, but Joshua alone has charge. Outside the descriptions in P no trace of the elaborate "Tent of Meeting" is discoverable. It is hence to be dismissed as unreal. This is the view of the Mosaic tabernacle introduced by Graf, Kuenen, and Wellhausen, and now found in almost every critical text-book and Biblical Encyclopædia that is published. I need only refer as examples to the articles on the Tabernacle in *Hastings' Dictionaries of the Bible* (alike in four-volume and one-volume dictionaries), and in the *Encyclopædia Biblica*; and to the recently published *Commentary on Exodus* by Dr. Driver, and *Introduction to the Pentateuch* by Dr. Chapman, writers who would be regarded, presumably, as belonging to the moderate wing of the school.

The rejection of the historicity of the tabernacle rests, as just said, in part on critical grounds—on the alleged late date of the P writing, and the supposed conflict of its descriptions with those in E—but far more on broader considerations, arising out of the conditions of the history, and the general view taken of the religious development. The tabernacle disappears as part of the total picture of the Mosaic age given in the documents JE and P, but specially in P. That picture, it is held, is late, legendary, and incredible. Religion had not, it is affirmed, then attained the stage which made the conception of such a tabernacle possible; and the narratives, when examined, show in every part their legendary and unhistorical character. To take only one point: the numbers of the Israelites who are said to have left Egypt at the Exodus—600,000 fighting men, implying a population of nearly 2,000,000—are declared to be impossible, and still less possible is the subsistence of such an immense multitude in the desert, which, at the utmost, could not have sustained more than 5,000 or 6,000. Then the amount of precious metals, and the high artistic skill, presupposed in the accounts of the making of the tabernacle, are such as a multitude of trembling fugitives cannot be conceived of as possessing. The simple weight of the massive boards, pillars, and heavy sockets of silver and bronze is beyond what the means of transport could convey. Or think of the elaborate weaving and dyeing operations and refined embroidery of fine linen implied in the production of the coverings and hangings of the structure. Putting all together, the case against the historicity of the tabernacle is claimed to be complete.

It may seem then, as if, in venturing to challenge this array of reasons for setting aside the tabernacle of the Exodus account, I were undertaking an absolutely hopeless task. I do not, however, myself feel that it is so; and I shall leave you to judge, when I have presented the other side, whether a great deal more is not to be said for the historicity of this sacred structure than the critical theories allow.

The purely critical question I do not discuss in detail. So far from admitting that the Levitical Code—the so-called P Code—with its complex of laws, rites, and institutions, is a production of the age after the exile, I believe this to be an arbitrary and wholly preposterous conception, for which no sound reasons have been adduced, and which ere long is bound to be abandoned by thoughtful minds. Imagine Ezra producing this Code of laws—a thing unheard of before—in presence of the returned community of exiles at Jerusalem—a community deeply divided, disaffected, religiously faithless, and in large measure opposed to the reforms of Ezra himself and of Nehemiah—and obtaining from them without demur the acceptance of its egregious historical statements, *e.g.*, that the Levites, unknown before Ezekiel, had been set apart by Jehovah in the wilderness, and from time immemorial had been richly endowed with cities, pasturages, and tithes, and beyond this, the acceptance of its heavy and entirely new financial burdens. I have, however, argued this fully elsewhere, without ever seeing an answer to my argument, and do not dwell upon it further now.

Much more weight, I grant, belongs to the historical difficulties, which here also I would only touch upon, as none of them are new, and they have been discussed and appraised times without number, without the rejection of the Mosaic account following as a necessary consequence. It may be observed that it is not the P document alone, but the JE histories as well, which narrate the marvellous increase of the people of Israel in Goshen, and the immense host that went out at the Exodus; they are pictured as leaving Egypt as an orderly, marshalled host, spoiling the Egyptians of their wealth, freely thrust upon them to secure their speedy departure; their marches, deliverances, and the provision made for them are not figured as natural events, but as the result of the miraculous guidance and bountiful care of Jehovah, their God and Redeemer; the entire history is penetrated by a supernatural element without which, it is freely admitted, it is not intelligible at all, but which, if granted, is in keeping with both the

antecedents and the consequents in the history of the nation, and becomes part of an orderly sequence of divine events and revelations. I am not concerned, therefore, about schemes even for the reduction of the numbers, which do not seem to me generally happy, and have difficulties to encounter in the consistency of representation in all parts of the narrative. To reduce the numbers to say, 5,000 or 6,000 seems to me absurd; yet, unless this is done—if, *e.g.*, you allow 20,000 or 30,000—the whole difficulty remains, for the desert, under present conditions, is as incapable of naturally supporting that number as it would be of supporting ten times as many.

I leave these outer subjects to return to the narratives of the tabernacle itself, and to ask whether there are not much stronger reasons for accepting them as historical than there are for rejecting them, as the critics do, *in toto*.

The tabernacle, on the critical theory, was, as already said, a creation of the exilian or post-exilian mind—part of a Code intended to apply to the restored community of Israel. Regarded as fiction, it is an extraordinarily elaborate, detailed, and minute piece of invention. Wellhausen cannot find language strong enough to express his contempt for it. “Art products of pedantry,” he says, “. . . One would imagine that he (the Priestly Writer) was giving specifications to measurers for estimates, or that he was writing for carpet-makers or upholsterers . . . of a piece with this tendency is an indescribable pedantry, belonging to the very being of the Priestly Code. . . . Nor is it any sign of originality, rather of senility,” etc. (*History of Israel*, pp. 337, 348, 350, 353). But now ask—What is the  *motive*  of this intolerable web-spinning on the part of the Priestly Writer? From the point of view of the theory, it is to provide a Code to be put in force after the return from exile; at least to furnish regulation for worship in the new community. For this purpose could anything be conceived less suitable than what was actually produced? Instead of a Code for a new temple at Jerusalem, everything takes the shape of a sanctuary and Code of laws for the desert, where the conditions were totally different. The portable tabernacle, with its curtains, coverings, regulations for construction, placing, transport, etc., had no longer the semblance of applicability, while the law providing that all sacrifices should be offered at the door of the tabernacle lost all relevancy after the relaxing rule of Deuteronomy xii, 15. On the theory of fiction the tabernacle must be viewed as a construction wholly in the air—a pure play of imagination from the motive of

inventing an ideal state of things in the past. How far does this tally with reason or with fact?

The explanation proposed is that the idea of the tabernacle was obtained by taking Solomon's temple as a model, halving its dimensions, making it portable by converting it into a tent, then projecting it back into Mosaic times. The temple was not an enlarged copy in stone of the tabernacle, but the tabernacle was a copy of the temple, reduced to half its size. How does this tally with the facts? I need not dwell long on the structure of Solomon's temple. It was a stately building of hewn stone on a fixed spot, 60 cubits (roughly 90 feet) in length, 20 cubits (30 feet) in breadth, 30 cubits (45 feet) in height—interior measurement. It was divided by a partition and veil into two apartments—the inner, or holy of holies, 20 cubits in length, breadth and height, with a chamber above; the outer, or holy place, specially called in the narrative the "temple," 40 cubits in length, 20 in breadth, but 30 in height. Before the temple was a lofty porch, in front of which stood two high bronze pillars—Jachin and Boaz—and round the building, adhering to its walls on the sides and back were three stories of chambers for storage and, perhaps, dormitories for the priests. The temple stood in the court, the dimensions of which are not given—they are generally reckoned as double those of the tabernacle—and this court again within an outer or greater court, the size, situation, and relation of which to the adjoining royal buildings are still matters of keen dispute, and do not concern us here. It was, according to the theory, the imaginative halving of the proportions of this temple and its appurtenances which yielded the tabernacle. A very little consideration, however, will show the fallaciousness of this plausible speculation. There is not such exactitude of proportion as the theory requires, and it is far easier to understand how the temple should be evolved out of the simpler structure of the tabernacle, than how that tent-like sanctuary should come to be as a simplification of the highly complex Solomonic temple.

Picture to yourself, first, for clearness sake, what in general the tabernacle was. Its name *'ohel mō'ēdh*, "Tent of Meeting," denotes it as the place of meeting between Jehovah and His people, as the other name *mishkān*, "Dwelling," interchanged with the former in the P descriptions, marks it as the place where Jehovah abode with Israel. The tabernacle enclosure, or court, 100 cubits (150 feet) long, by 50 cubits (75 feet) broad, was formed by white linen curtains suspended from pillars, 5 cubits, or about  $7\frac{1}{2}$  feet high. Its entrance was towards the

east. In the innermost half of this enclosure stood the tabernacle itself. The tabernacle may be briefly described as consisting of a framework of gilded boards, set in silver sockets, over which were cast successive coverings—the first a beautifully embroidered curtain, made of ten breadths, joined, in sets of five, by golden clasps in the middle; the next, a covering of goat's hair, the tent-covering proper, made of eleven breadths, therefore larger than the former, and overlapping it as it hung; finally, a rough covering of porpoise or dugong skins, to protect against the weather. A chief problem about the tabernacle is, whether these coverings were stretched flat-wise over the top of the framework, hanging down at sides and back almost to the ground, or, as Mr. Fergusson and others have ably argued, were raised by a ridge-pole to form a sloping roof, corresponding to the character of a tent. It is certainly in favour of the latter conception that nothing could be less like a tent than the coffin-like structure, with a pall thrown over it, which results from the flat-roof theory, not to speak of the danger of sagging, and the concealment by the curtain of the gilded work and bars of the outer framework, also of the beauty of the curtain itself from the view of those within. Professor A. R. Kennedy meets this by a hypothesis that the framework did not consist of solid boards, but of open frames, through which the curtain would be visible. The theory is ingenious, but has its own difficulties. The mention of "pins" and other appliances of a tent support Mr. Fergusson's view. However this may be, and it is immaterial for the present argument, the main facts about the wilderness sanctuary are clear enough. The tabernacle was not a large structure—only 30 cubits (45 feet) long by 10 cubits (15 feet) broad. It was divided, like the temple, into a holy and a most holy place—of the dimensions of which I shall speak immediately. A veil divided the two places, and an embroidered curtain, hung from five pillars, closed the entrance.

Such was the tabernacle structure. In its outer court was the altar of burnt offering—only 5 cubits ( $7\frac{1}{2}$  feet) square and 3 cubits ( $4\frac{1}{2}$  feet) high (Exodus xxvii, 1)—and the bronze laver for the ablutions of the priests (Exodus xxx, 17–21). In the holy place were the golden candlestick on the south side, the table of shewbread on the north side, and the golden altar of incense, again quite small, 1 cubit square and 2 cubits high, in front of the veil. The altar was regarded as belonging rather to the most holy than to the holy place. In the holiest place, finally, stood the ark of the covenant. It is not always realized how very small this sacred object, with its covering of gold, or

mercy-seat, and the cherubim at either end, was. It was only  $2\frac{1}{2}$  cubits ( $3\frac{3}{4}$  feet) long;  $1\frac{1}{2}$  cubits (2 feet 3 inches) broad, and the same— $1\frac{1}{2}$  cubits—in height.

This is a very cursory description, but it will suffice to enable us to judge of the theory of the halving of Solomon's temple. Beyond the fact that in interior length and breadth the temple was twice the size of the tabernacle the theory has very little support.\* The tabernacle court is commonly assumed to be half the dimensions of the inner court of Solomon's temple. In reality it is the other way. Nothing is known of the dimensions of the court of the temple, and it is only by inference from the dimensions of the tabernacle court (100 cubits by 50) that we reach the probability that the temple court may have been 200 cubits long and 100 broad. There is no certainty even about that. If it be so, is the fact that the size is not mentioned in Kings not a reason for believing that the description of the tabernacle is presupposed? Passing next to the tabernacle, it is again commonly assumed that the holy place and holy of holies in that sanctuary had the same relative proportions as in the Solomonic temple, only halved: *i.e.*, that the holy of holies was 10 cubits square, and the holy place twice that length, *viz.*: 20 cubits. But it should carefully be observed that this again is nowhere stated in the description, which, on the contrary, explicitly declares that the veil dividing the two places hung directly below the clasps of the curtain overhead (Exodus xxvi, 33), *i.e.*, presumably in the middle. That is the only place it could be, on Mr. Fergusson's view of the construction; and even if that be rejected, it remains a serious difficulty, for the shifting back of the joining of the curtains (40 cubits long in all), 20 cubits from the entrance, leaves a full 10 cubits to hang down at the back. I do not wish to press this unduly; I only wish to point out that the usual assumption that the holy and most holy places were modelled on the proportions of the temple has no support in the text itself, which gives no dimensions at all. In other respects the proportions do not agree. In the temple the holiest place was 20 cubits in length, breadth, and height;

---

\* Mr. Fergusson, in his article "Temple," in Smith's *D.B.*, while contending strongly for the historicity of the tabernacle, gives too much support to the halving theory when he writes of the Temple: "The first thing that strikes us is that all the arrangements were identical, and the dimensions of every part exactly double those of the preceding structure." Mr. Fergusson's love of symmetry, as shown in the paper leads him here too far.

the holy place was 40 cubits long, but 30 cubits high. This has no analogy in the tabernacle. When we proceed to the furniture and belongings of the sanctuaries the halving theory breaks down altogether. There is no halving in the ark, for it is the same old Mosaic ark which accompanied the Israelites in their wanderings, which—small and disproportionate as it was—was brought up by Solomon, and placed in his more splendid house. What Solomon did was to erect two new massive cherubim of olive wood, plated with gold, the wings of which stretched from side to side of the chamber, and overshadowed the mercy seat and its lesser figures. In the holy place, instead of one candlestick there were 10; instead of one table there were, according to Chronicles, also 10; the dimensions of the altar of incense are not given; in no single particular is a principle of halving discernible in the tabernacle. The altar of burnt-offering is an even more signal example. The dimensions are not given in I Kings, but Chronicles, probably on good authority, gives it at 20 cubits square and 10 cubits high (iv, 1)—an immense enlargement of the 5 cubits square altar of the tabernacle. I think, accordingly, I am justified in saying that, as far as the new theory rests on any assumption of halving the sizes in Solomon's temple, it has no real foundation.

There is another point worth noticing about the temple as bearing on our subject. While special detailed descriptions are given of the new objects in the sanctuary—as the great molten sea and the ten lavers with their ornamented bases in the court of the temple—only allusion is made to such objects as existed in the older sanctuary, as the golden candlestick and the table of shewbread, with their utensils. Beyond the fact of the multiplication of their number (I Kings vii, 48, 49; II Chronicles iv, 7, 8) nothing is said of them. The obvious explanation is that, as these were fashioned after the model of the same objects in the tabernacle, further particulars regarding them were not needed. So, as utensils familiar to the reader, only allusion is made to the pots, shovels, basins and fleshhooks, connected with the altar (I Kings vii, 40, 45; II Chronicles iv, 11, 15).

To a certain extent, therefore, the tabernacle appears as the postulate of the temple, not *vice versa*; and this relation is confirmed when, moving backwards, we glance at the history. The testimony of Chronicles (I Chronicles xvi, 39, 40; II Chronicles i, 3) to the fact that in David's time the "Tent of Meeting" was set up at Gibeon, is discredited by the critics, the ark being at the time lodged in a new tent made for it by David on



Mount Zion (II Samuel vi, 17). But I Kings also declares (viii, 4) that, at the dedication of the temple, the Tent of Meeting and its holy vessels were brought up to be placed in the new sanctuary. This reference, though found in the LXX as well as in the Hebrew text, is expunged by the critics as an interpolation; or it is alleged that the name "Tent of Meeting" is given to David's provisional tent, a usage without warrant. Without, however, dwelling on this, there are other indications which are not open to such objection. It is quite incidentally that, in the previous history in I Samuel, we come, in the notice of the tabernacle at Shiloh, under its old name, *'ōhel mō'ēdh*, on mention of "the lamp of God" burning, as directed, all night (I Samuel iii, 3; *cf.* Exodus xxvii, 20, 21); and at Nob, of the "shewbread" (I Samuel, xxi)—a characteristic institution of the Levitical Code. It is only, as it were, by accident, that the mention of "lamp" and "shewbread" occurs, otherwise their existence also would probably be denied. The argument from silence, as these instances show, is a precarious one. Even Wellhausen admits that at Shiloh there must have been—as at Nob later—a considerable priestly establishment (*History of Israel*, pp. 19, 128), though only Eli and his two sons are mentioned. The reply given to this is that the sanctuary at Shiloh cannot have been the tabernacle, for it is called twice a "temple" (I Samuel i, 9; iii, 3), and had "doors" and "doorposts," implying a permanent structure. On this last point it is to be observed that Old Testament tradition was quite clear that prior to the temple, Jehovah's dwelling was "a tent and a tabernacle" (*'ōhel* and *mishkān*, II Samuel vii, 6; I Chronicles xvii, 5)—the ark of God dwelt "within curtains." It is no contradiction of this that during its century-long stay at Shiloh, the "Tent of Meeting" may have gathered round it other structures, supports and conveniences—gateposts, sleeping chambers for priests and attendants, etc. But this suggests to me another remark which I think is of great importance. Are we bound to suppose that the tabernacle continued during the whole of the long period between the Exodus and the building of the temple—according to I Kings vi, 1, 480 years; on the shortest reckoning about 300—without change, renewal, replacement of parts occasioned by age and decay? The tabernacle as set up in the wilderness was, after all, not a structure that could for a very long space of time endure stress of wind and weather, not to speak of simple decay of material. Boards will not hold out for ever, even apart from frequent removals and journeyings, curtains will wear out, and become faded and

torn. The tabernacle could not for three or four centuries retain the fresh, beautiful appearance it had from the first, and, with general adherence to the original model, would undergo repair, replacement, and, as need required, modification. There is no necessity, therefore, for supposing that the "Tent of Meeting," as it existed at Shiloh and Nob, was in every particular an exact facsimile of the original wilderness structure.

In this connection an interesting corroboration of the historicity of the tabernacle may be based on the identity of the sacred ark in pre-Solomonic and Solomonic times. I have often wondered that the implications of this identity are not more dwelt upon than they are. There was much that was new in Solomon's temple, but it should carefully be observed that the ark at least was not new. There is little dispute that it was the one Mosaic ark which, after many vicissitudes, was brought up, and deposited by Solomon in his new house, where it remained till the destruction of the temple by Nebuchadnezzar. The notices we have of this ark—its cherubim (I Samuel iv, 4), the staves by which it was borne, and the tables of stone it contained (I Kings viii, 7-9)—show that it answered so far to the description of the ark in Exodus. The suggestion that the cherubim are an unhistorical addition (Driver, etc.) is opposed not only by the text of the LXX, which agrees with the Hebrew, but by the nature of the case. What motive could exist for interpolating the two small cherubim of the ark, while Solomon's temple, with its large overshadowing cherubim, still stood? The passage in I Kings mentioning the staves and the tables of stone was written while the temple still existed—"there they are," it is said of the staves, "unto this day" (viii, 8). In Deuteronomy also, even if we relegate that book to the age of Josiah, the ark of acacia wood and its contents are described in accordance with the ark of Exodus (Deuteronomy ix, 1-5). In any case, and this is the essential point, there must have been a familiarity with the form and nature of the ark up till the very end of the temple, and if priestly writers described it in the exile, they could hardly have ventured on a wide divergence from the reality. On the theory that the tabernacle was a copy, in reduced form, of the temple, we must suppose that the ark of the tabernacle was a copy also, and this guarantees that the description given of it corresponded very much with the reality of the Mosaic ark. It was, in fact, the *one* ark, the character of which was well known in exilian times, that persisted to the very end. What follows from this? Ark and tabernacle go closely

together. It is granted that there must have been from the beginning a tent of some kind as a protection and habitation for the ark. But the tent must have corresponded in some degree with the character of the ark, and if this was the beautiful, gold-covered object which we have seen reason to believe that it was, in other words, if it agreed with the description given of it in Exodus—it is highly probable that the tabernacle sheltering it would have some degree of splendour also; would be a habitation worthy in dignity and significance of the Jehovah whose ark it was. The counter-theory that the ark was originally simply a fetish-chest, with perhaps two meteoric stones representing the deity, I dismiss as a figment of rationalistic imagination contrary to all historical evidence. The ark had a well-known history; men could verify what it was like at the time when David and Solomon brought it up to Zion; when Deuteronomy was written; in the age when the temple was destroyed; and we are on the safest ground when we affirm that Exodus correctly describes it, and with it the tabernacle that enshrined it.

This brings us back to the primary descriptions in Exodus, and to the question of their historical worth. Dr. Driver and other writers say flatly that the tabernacle could not have been historical, because, apart from the costliness and skill implied in its construction, the descriptions are "marked by omissions and obscurities" which indicate that "they are not the working directions upon which a fabric, such as is described, could be actually constructed" (Exodus, p. 427). It may be sufficient to put in opposition to this the opinion of an expert working architect like Mr. Fergusson, who as the result of his minute study of the subject, declared, "It seems to me clear that it must have been written by some one who had seen the tabernacle standing. No one could have worked it out in such detail without ocular demonstration of the way in which the parts were put together" (cited in *Speaker's Commentary on "Exodus,"* p. 379, cf. Art. on "Temple" in Smith's *D.B.*) Stress is laid upon the fact (Driver, Kennedy, etc.) that the bulk and weight of the materials of the tabernacle (boards, bars, sockets, pillars, etc.) were such that they could not be transported in the six covered wagons offered by the princes (Numbers vii, 2 ff.). We need not suppose, however, that these gift-wagons were the only means of transport at the disposal of the Levites for this purpose (cf. Keil, *in loc.*).

The most plausible critical objection, to my mind, to the historicity of the tabernacle is that drawn from the difference

in representation in the few JE passages already referred to and the elaborate descriptions in the so-called P sections, which are the main ones. I do not accept the late date of the alleged Priestly Writing, but I do not dispute the distinction in style and character between it and the notices referred to in the E or JE source. But even here the differences are greatly exaggerated, and may perhaps most easily be explained by the fact that the P sections are devoted to a formal and detailed description of the tabernacle, its relations to the rest of the camp, its rules for transport, etc., while the other more popular narrative fixes attention mainly on the incidents, and uses simple and untechnical phraseology in its allusions to comings and goings between camp and tabernacle. It is true that, before the tabernacle and ark were made, Moses, at the time when God was displeased with his people,—possibly till the tabernacle was reared—was used to pitch the tent outside the camp, “afar off,” it is said, and the people went out to him (Exodus xxxiii, 7–11). There were then no Levites to attend to the tent, so that the absence of mention of them implies no contradiction to the later law. When, however, it is affirmed, on the basis of Numbers xi and xii, that the same rule prevailed in the wilderness wanderings, this can only be made good by ignoring many clear indications in the JE narrative itself, that the camp was not ordinarily outside, but within the camp, and that it was served by a Levitical priesthood.

In proof of the former, given by me more extensively elsewhere (*Problem of the Old Testament*, pp. 167 ff.), I need only refer to the declaration in Numbers xiv, 44, that “the ark of the covenant of the Lord, and Moses, departed not out of the camp,” implying, as plainly as language can do, that its resting place—therefore the place of the tabernacle—was *within* the camp; or again to the formula in Numbers x, 36, at the resting of the ark—“Return, O Lord, unto the ten thousands of Israel,” which shows the same thing. The Levitical priesthood is amply attested by the notices in Deuteronomy (x, 6, 8; xxxi, 9, 25, 26) and Joshua (iii–vi). When, again, it is noted as a feature of contrast with the P description that in JE Jehovah descends in the pillar to the door of the tabernacle to speak with Moses, it is not observed that in the P part also (Exodus xxix, 42, 43) it is said: “At the door of the tent of meeting . . . to speak there unto thee.” I cannot, therefore, admit that, while the style of representation is somewhat freer and more popular, there is any essential disagreement between the different accounts warranting us in declaring that the P

description is unhistorical. It is a very significant admission which Dr. Driver makes at the end of his long discussion to prove that "it does not seem possible to regard the Tent of Meeting, as described by P, as historical," when he says: "Although there are great difficulties in accepting all the details as historical, the general plan and outline of P's tabernacle may rest upon historical tradition to a greater extent than we are aware. There are abundant indications showing that the ritual system of P is a development from old, and in some cases archaic ceremonial usage; and the same, *mutatis mutandis*, may have been the case with his picture of the tabernacle" (Exodus, pp. 430-1). If that is granted, I fail to see why, if the untenable assumption of the post-exilian origin of the Code is given up, we may not go a good way further, and say that P's picture of the tabernacle goes back to the times when the tabernacle actually existed, and rests on sound historical knowledge.

#### DISCUSSION.

Dr. WILLIAM WOODS SMYTH said: We have been privileged to hear this interesting subject treated by a high, if not our highest living authority. And the subject and occasion are singularly in place just after the publication of Canon Driver's work on Exodus.

It is not sufficiently borne in mind that the Egyptian people, and in considerable degree Israel, at the era of the Exodus had reached a very high state of civilization. Moses was brought up in a court which for culture and refinement surpassed every Imperial and Royal Court in Europe of our time.

Again, Israel in their Exodus "spoiled the Egyptians," and the wealth of Egypt at this time, only after the Rameses period, was enormous. And they owed it all to Israel because of long unpaid labour. This great wealth supplied everything embodied in the Mosaic Tabernacle.

While we acknowledge the importance and utility of Professor Orr's interesting paper, I must express my regret that Professor Orr should have adopted the theory of J.E.P. documents, when so great an authority as Professor Eerdmans, now in the chair of the redoubtable Kuenen, throws them overboard. Where is the use of placing any reliance upon a hypothesis, which is based on the

fallacious argument, that a given writer always adheres to one, and one only, style in language, composition, method, and illustration in writing, when as a matter of fact most writers run through the whole gamut of composition, the subject matter of discourse having a potent influence in varying the style of writing. Carmichale of Montreal showed the strata the Critics contend for in the Bible to be present in Macaulay's writings. Someone has pointed out that the principles of criticism upon which this farrago of "J," "E," "P," offered us is based, would with more reason compel us to believe that the writings of Burns show the existence of four or five men of that name.

St. Paul in his Epistle to the Romans, for the name of our Saviour in the early part of that Epistle uses the form "Jesus Christ." After these chapters we find almost exclusively the form "Christ Jesus" and "Christ," or "Lord Jesus Christ," till the last few verses of the Epistle; where a supplementary passage of three verses occurs, and we have again the form "Jesus Christ." So far as anything the Critics have to show, it is open to us to point out some differences of style in connection with the different use of the sacred Name. Even the Critics fail to convince themselves, unless they are permitted to call in the agency of an unknown, unknowable, unnameable, and unhistoric being called a "Redactor."

Mr. MAUNDER said: May it be permitted to a practical astronomer to express how the general methods of the Higher Criticism strike him? It might seem as if astronomy had no bearing upon such methods, but it follows from the nature of astronomy, which necessitates the collation of observations made in different places and extending over great periods of time, that astronomers are continually obliged to make use of observations made by others. This brings the written document into great importance, as it may be necessary to use observations made a century or more ago. And what is the light in which experience has taught astronomers to regard the written document? Conan Doyle said of the British mob of a hundred years ago that it had been bludgeoned into a respect for law and order. It is hardly too strong an expression to use to say that experience has bludgeoned astronomers into the most scrupulous respect for the written document as it stands.

I could give, if necessary, any number of illustrations from astronomical history in which an account of some apparent contra-

diction or, because it did not seem to fit in with accepted views, the record of some observations has been rejected. Time and again the written document, sometimes after a hundred years, has vindicated itself, and those who rejected it have suffered in their reputation.

It would be impossible for an astronomer to stand up before his colleagues and advocate some theory which he was basing upon documents that he was treating in the way in which the Higher Critics habitually and of set purpose treat the documents presented to them in the Bible. I am not speaking now from the point of view of my belief that the Bible is indeed the Word of God, but simply from the point of view that it is an existing document of which we wish to make use. If an astronomer were dealing with a record of observations which he felt that he could treat with the freedom with which the Higher Critics treat the text of Scripture, if he felt himself obliged to dissect, to alter, to eliminate, even to one-hundredth part of the extent that has been done in this critical handling of Scripture, he would feel bound to reject it completely as not worth wasting labour upon; it would go, the whole of it, into the waste paper basket at once.

It is, therefore, from the point of view of a practical astronomer, that the methods of the Higher Critics seem to me essentially opposed to the principles of science.

Mr. MARTIN ROUSE said: I can only testify that I know Dr. Orr as in no sense a Higher Critic, but as a defender of the Pentateuch as a firsthand and faithful record of events. It was in this character that two years ago, during my sojourn in Toronto, he lectured to vast crowds of students and others in the University Theatre and in two of the largest churches in Toronto, not to speak of his series of addresses given there to the scholars of the Bible Training School and their friends. Indeed, in the chief Canadian newspaper (*The Toronto Globe*) he was termed "a great war horse" of orthodoxy.

I remember an argument uttered there, to which he alludes in this paper, and by which he upset the theory that the Levitical Code was written upon the return of the Jews from Babylon: the priests who returned were far more numerous than the other Levites who did so—twelve times as numerous, as shown by the muster-rolls. How, in face of such conditions, could Jeshua or Ezra

or any other priestly scribe have set down as of solemn authority the ordinance, that the mass of the people should give a tithe of all their annual produce to the Levites, and they again a tithe of their tithe, or only a hundredth part of the produce, to the priests? In speaking of the earlier part of the Pentateuch, also, Dr. Orr remarked that Genesis x, with its accurate and comprehensive table of affinities among the nations of the world, stood out as a grand witness to the authentic and contemporary character of the records in Genesis; since it would have been impossible to construct such a table even a single century after the dispersion of the peoples, when settled in their widely severed habitats and speaking tongues so diversified.

The difficulty of the existence of a "tent of meeting" in the wilderness before Moses was bidden to make one is obviated, if in Exodus xxxiii, 7, we read "his own tent" with the Samaritan Hebrew text instead of "the tent" with the Masoretic Hebrew, making the verse run "And Moses took his own tent and pitched it outside the camp afar off from the camp, and he called it the tent of meeting" (see *Impl. Bible Dict., Samaritan Pentateuch*).

Doctor Orr's idea that the beautiful tabernacle curtains and the goats' hair tent that covered them had to be renewed from time to time appears (at first sight) to be borne out by the Divine statement made through Nathan to David, "I have gone from tent to tent, and from one tabernacle to another," I Chron. xvii, 5. But the two outer coverings, of ram skins and skins of the *takhash*, must have given them a nearly perfect protection against sun and storm; while the Divine words may well refer to the fact that, after the ark of the covenant was brought back by the Philistines, it went no more to the tabernacle at Shiloh or Gibeon, but first to the house of Abinadab at Kirjath Jearim, then to the house of Obed-Edom at Perez-Uzza, and lastly to a tent that David had pitched for it in Zion—I Sam. vii, 1; II Sam. vi, 8-10, 12, 17 *et pl.*

Dr. THIRTLE: I am struck by the want of consistency in the critical position as a whole. At one time we are told that the ancient Hebrews were an unimaginative people; that they had no faculty for the romantic. Yet, all the same, their literature has been dealt with in a manner which cannot but suggest that they included men who were veritable adepts in the work of fiction, men



whose writings and compilations were, in fact, anything but what they seem. Moreover, as we have been reminded this afternoon, among the leaders in Hebrew literature there were men who (so it is said) set themselves to provide, or rather devise, a *model* structure a good while after the same had been realized in a stately *copy*! In other words, we are told that these men found delight in describing institutions which never existed; and, having projected the same into a far distant past, suggested that they formed the germ and inspiration of things which had since become well known! And what is more, these men succeeded in foisting the said description upon an unsuspecting community. These various positions do not cohere: in fact, any one of them excludes the others.

Surely some of us remember the time when all possible was done to represent Moses as a decreasing figure in history and literature. It was said, among other things, that he could not have done the things which the Old Testament places to his account. Going into details, Critics sought to show that legend had gathered round the people of Israel; that the provisions of the Decalogue were in some respects inconceivable; and that the writings of Moses were, in part if not as a whole, pious frauds. When, however, it became evident that the art of writing was more ancient than had been supposed; that the nations which surrounded Palestine had laws which were marvellously comprehensive; and that the remains of other peoples contained references to ancient Israel, then, by steady steps, Moses became an ascending figure, and to-day he is increasing in reputation both as a man and a law-giver. Indeed, with the discovery of the Code of Khammurabi, it has come to be held that Moses was not only a leader of his people and a great law-giver, but likewise a statesman well acquainted with the laws of other nations, and, moreover, able to make use of the accumulated wisdom and experience of such nations!

These facts, as I maintain, indicate the most serious defect of Criticism: it fails to do justice to the documents which relate to the man, his people, and the laws which stand in his name. If Criticism would but take due account of the Old Testament, it would find therein a solution of many of its difficulties. For example, it is said that the children of Israel could not possibly find food in the wilderness. Here the record helps us; the Divine Redeemer of the people gave them manna—"bread from heaven."

Again, when the wisdom and power of Moses is considered, can we do better than follow the Hebrew record with its statement that the law-giver received instruction from God, and that those that executed his commands shared a like endowment from Heaven? As we read, everything was done "according to the pattern shown in the mount."

In a word, Criticism cannot "have it both ways," either with regard to the people of Israel, or to Moses "the man of God." Ark, Tabernacle, and people go together, and Moses occupies the central place. No other nation of antiquity had such a deliverance, such a leader, such institutions. The history presented by the Old Testament documents is one that throbs with the acts of men, and tells of the over-ruling power of God, neither of which factors have due representation in the processes of Criticism, which, in separating itself from history in its most simple expression, yields, as might be supposed, results that are discordant in themselves and mutually destructive.

Sir ROBERT ANDERSON, K.C.B., said: The tent of meeting, which we all mean when we speak of "The Tabernacle," never stood outside the camp. On account of the apostasy of the golden calf, which occurred while Moses was on the mount receiving instructions to make the Tabernacle, he pitched the then tent of meeting outside the camp. But when *the* Tabernacle was made, it was dedicated by blood-shedding, and placed in the middle of the camp, a position which it occupied ever afterwards.

"The historicity of the Tabernacle" is a question to be decided by evidence; and questions of the kind should be left to men who have practical experience in dealing with evidence—a category which does not include the Critics. Indeed if the matter were not so serious and so solemn, the methods of the Critics might amuse us. Any clever *nisi prius* lawyer could do their work better and make a stronger case against the Bible. But those of us who have been accustomed to attend the Law Courts know how little that sort of talk weighs with sensible men.

One word more. I think that in dealing with this question we should not forget the testimony of the Lord Jesus Christ. For with the Christian the Lord's testimony to the "historicity" of the Pentateuch is an end of controversy. One is amazed at the blindness of the Critics in ignoring the fact that it was after the Resurrection

when the Lord stood free from all the limitations of His humiliation—whatever they were—and spoke with full Divine knowledge, that in the most explicit and emphatic terms He accredited the Books of Moses as Divine. For then it was that, “beginning at Moses, and all the prophets, He expounded unto them in all the Scriptures the things concerning Himself.” And again, referring back to His previous teaching, “He said unto them, these are the words which I spake unto you while I was yet with you, that all things must be fulfilled which were written in the law of Moses, and in the Prophets, and in the Psalms concerning me”—the well known three-fold division of the Hebrew Canon. (Luke xxiv, 27, 44.)

Professor HULL said: Though I am not in a position to speak on the details of the question before the Meeting, I would like to say that I have followed the line of march of the Exodus step by step through the wilderness of Sinai and Arabia Petræa, and I can confirm the absolute integrity and accuracy of the sacred writers; never was a description of a great migration so definite, clear, and evidently true. I cannot separate the story of the Tabernacle from its historical setting, and that I have been able to confirm by personal experience.

Anyone who reads, with a candid mind, the account in Exodus xxiv–xxxvii cannot fail to come to the conclusion that the details of events which took place at the foot of Mount Sinai (Jebel Musâ) were written by one who was a personal actor and spectator of the events there described; and amongst these were the directions given to Moses by Jehovah for the construction of the Ark which was henceforth to accompany the people through their journeyings into the land of Canaan, and the presence of which is so deeply interwoven with their history. For myself I accept the account in Exodus—whether dealing with miraculous or non-miraculous matters, as I would that of any reliable historian. It is the only source of our knowledge of these events, and the whole Jewish nation is a standing witness to its truth.

It is now so many years since my visit with the party sent out by the Committee of the Palestine Exploration Fund in 1883–4 that many members of the Institute may not have had any opportunity of becoming acquainted with its results; these will be found in vol. xxi of the *Journal of Transactions* (for 1887–8), being the address delivered at the Annual Meeting of the Society.

The little volume, *Mount Seir, Sinai and Palestine*, which I wrote with details of the expedition is now, I fear, out of print.

The Rev. J. A. LIGHTFOOT said: It seems to me that a strong argument for the historicity of the Mosaic Tabernacle may be derived from the character of the narrative of its construction:—(1) Two accounts of the details of the Tabernacle are given. One gives us the order in which it was revealed to Moses, Exodus xxv to xxx; the other gives us the order in which it was actually constructed, briefly in Exodus xxxv, 10–19, and fully in Exodus xxxvi to xxxix. The fact that we have two accounts gives a verisimilitude to the whole transaction. Surely this would be a quite unaccountable method of narrating, if the writer were an Exilic romancer. It is indeed pointless and clumsy, unless it is a history of what happened. (2) But the two accounts strikingly differ in the order in which they deal with the different parts. The first begins with the Ark and the Mercy-seat (the contents of the Holiest), the Table and the Candlestick (contents of the Holy Place); then follows the Tabernacle. But the second begins with the Tabernacle, and places the making of the Ark, etc., after the Tabernacle had been made. Now if we are dealing with a historical narrative this change of order is natural and intelligible. It was natural that in the order of revelation the Ark should be mentioned first, for it was the central object, and the Tabernacle was constructed for its sake. It was natural that in the order of construction the Tabernacle should come first, for its resting-place must be ready for the Ark before that sacred thing itself was made.

One other point of verisimilitude in the narrative is worth noticing. The series of instructions to Moses closes with an injunction as to Sabbath observance (Exodus xxxi, 13–17). This comes in naturally as a warning, as if God said: “I have set before you a sacred work to be done, but remember that its sacredness will not justify a breach of the Sabbath for its sake”; not even Tabernacle construction is allowed to be done on the Sabbath. It is no less natural that in the series of instructions given by Moses to the people, the reminder about Sabbath observance should come first of all (Exodus xxxv, 1–3).

Bishop Westcott (*Commentary on Hebrews*, p. 233) called the “critical” theory of the Tabernacle “an incredible inversion of history.” It seems to me that the narrative itself defies the theory

of religious romance, and demands to be read as a record of what took place.

Mr. H. M. WIENER said: As it is getting late I must confine myself to one or two points. There can, I fear, be no doubt that Dr. Woods Smyth was quite right in saying that Dr. Orr accepted the documentary theory, though in a modified form. Indeed there is evidence of this in the sentence on p. 113, relating to the history of the Ark, where the composition of Deuteronomy is treated as an event that took place between the age of David and Solomon and the destruction of the Temple.

I desire to express my entire concurrence in what Sir Robert Anderson said as to the inability of the Higher Critics to weigh evidence.

The main point with which I wish to deal is the question of the tent in Exodus xxxiii, 7 ff. The first of these verses is not accurately translated in the current English version. It should run, "And Moses used to take the tent"—or *a* tent, for Hebrew idiom uses the definite article in certain cases where the English would require the indefinite "*a*"—"and pitch it *for himself*, etc." The little Hebrew monosyllable meaning "for himself" is unfortunately omitted in the English versions, but in the most recent English edition of Exodus—that of Dr. Driver—the inaccuracy of the current rendering is pointed out. Now I put it to you, is it really conceivable that if the tent here spoken of had been the shelter of the Ark, Moses would have taken it and pitched it for his own use outside the camp, afar off from the camp, leaving the Ark itself bared and unguarded in the midst of the camp? If that question is answered in the only possible way, it follows of necessity that this narrative does not relate to that tent of meeting, which we call the Tabernacle in ordinary parlance. A difficulty then arises from the name "tent of meeting." It is hard to believe that after seven chapters (xxv-xxx) almost wholly devoted to instructions for the tent which was to bear that name, Moses should have taken an entirely different tent for his own purposes and applied to that the designation of the intended home of the Ark. If he had done so, the narrative would surely have given us some intelligible explanation of his procedure. I, myself, believe that Exodus xxxiii, 7-11, is at present misplaced, and should stand much earlier (see *Essays in Pentateuchal Criticism*, pp. 93-102, 106 f.; *The Origin of the*

*Pentateuch*, pp. 53 ff.), but if I were to start on the subject of the textual criticism of the Pentateuch, I fear we should be here all night.

I thank you for your kindness in giving me a hearing.

Dr. HEYWOOD SMITH wished to make two observations. The first was with regard to the author's remarks at the bottom of p. 111 on the wearing out of the boards and curtains; could not the same God that kept the clothes and shoes of the Israelites from wearing out have also preserved the material of his own Tabernacle from deteriorating? And secondly, the author says (p. 113), "We are on the safest ground when we affirm that Exodus correctly describes it." Have we not also the additional testimony of the author of the Epistle to the Hebrews, who, in his description of the Tabernacle with its furniture and the Ark (chapter ix), writes as one who was inspired to speak of things that had had an actual existence and were not dim pictures of a myth.

The CHAIRMAN in summing up said: It is most valuable to have the opinion of experts in two branches of evidence, Sir Robert Anderson and Mr. Maunder, as to the value of questions of Higher Criticism. For my part, I have no doubt that experts in forensic evidence and in scientific evidence have much sounder views of what evidence really means than those whose criticism cannot be verified by experiment or practical life.

I cannot understand the objection to the Mosaic account of the Tabernacle, that it is not clear enough for anyone to work on. At least two of my friends have found it clear enough to construct models not exactly alike but differing only in minor points, the only great difference being whether there was or was not a ridge pole.

As to the remarks which have been made as to the author's views on questions not in the paper, I would say that it is not right to try a man in his absence when he has had no notice of the charge. It certainly is not allowed in law, and I think should not be in discussion.

In conclusion, I propose a hearty vote of thanks to Professor Orr for his most valuable and important paper.

This was put to the meeting and carried unanimously.

The following written communications have been received.

From Canon GIRDLESTONE:—

P. 104. Reference is made to "high artistic skill." In Petrie's

*Hist. Egypt* (i, 140) we read with regard to a *pre-Abrahamic artist*, "God has made him excel . . . the work of the chief artist in every kind of precious stone, gold, silver, ivory, ebony." See also p. 177 on the pectoral inlaid with precious stones found in a casket, also his notes on early statuary and painting, and on the simplicity, vastness, perfection and beauty of Egyptian art in patriarchal times, and on traces of Semitic workmanship in Egypt, in the XVIIIth Dynasty (vol. ii, p. 36). In view of these and other utterances, the very natural difficulty about "high artistic skill," etc., vanishes.

P. 104. Dr. Orr's position is confirmed by the fact that the explanations with regard to structure are far more detailed and exact in regard to the Tabernacle than in the case of the Temple.

P. 105. *Technical words* introduced in Exodus xxv, etc., have to be carefully studied, as is sometimes, but not always, done by the revisers, in order to detect the substitution of other words in Kings and Chronicles. Note, *e.g.*, the substitution of *Row-bread* for *Show-bread* (not marked in Revised Version) and the introduction of "oracle," "chariot," "gourd" (for knop), "felloe" (for fillet).

P. 106. There is a remarkable pair of expressions bearing on the points of the compass, viz., "Southside southward" in Exodus xxvi, 18, and elsewhere, and "Eastside eastward" in Exodus xxvii, 13. What does it mean? In each case the old words used in patriarchal times (*negeb* and *kedemah*) come first, whilst other words *used here for the first time in this sense* are added by way of explanation (*teman* and *mizrach*). This would never have been needed in later times, and the duplicate expression is never used again except by Ezekiel, who is steeped in the use of Tabernacle expression. The sons of Jacob had not forgotten their ancestral language, and we have here a testimony to the fact.

FROM CHANCELLOR LIAS :—

I quite agree with the statement on p. 105, that the theory of the Levitical Code, which enjoys the favour of critics just now, is "arbitrary and wholly preposterous." These words I feel to be not one whit too strong. A theory which is established by striking out every passage in the historical scriptures which is irreconcilable with it, and assigning that passage to a later date, is one which, to use the words of the late Bishop Stubbs, a historical expert by no means to be despised, would be "laughed out of

court" in every branch of historical research except that in which theological prepossessions are allowed to enter. And where we find it supported by the absolutely incompatible assertions (1) that the so-called Priestly Code is "in its present shape" post-exilic, and yet (2) that it is, "in its origin, of great antiquity," and is a "codification of the existing Temple usage," it becomes quite inadmissible. It is a dexterous mode of puzzling opponents, no doubt, for when an opponent proves, as he can easily do, that a large portion of the Priestly Code is pre-exilic, he is, of course, met by the reply, "Precisely so, that is what we say." And if the critic, when challenged to state precisely which of the regulations of the Code are post-exilic and which are not, proceeds calmly to tell us that this "is an archæological rather than a literary question," and that, therefore, he is not called upon to enter into it, one wonders what theory can possibly exist which cannot be proved by arguments such as these. It is no wonder that Professor James Robertson has invoked the aid of British enquirers to introduce a "saner" sort of criticism which shall correct the exaggerations and arbitrary assumptions of so many German critics.

On p. 111 the Professor refers to the passage in I Kings viii, which states that the Tabernacle (or "tent of meeting," as it is called) and "all the holy vessels therein" were brought up to Jerusalem for the service of dedication of the Temple. This passage is characteristically struck out by the critics, and I have never been able to find any reason for this except that it conflicts with their prepossessions. On such principles of historical investigation it could be proved that Queen Elizabeth reigned before the Norman conquest. But I would ask the meeting to note what is said in I Kings iii, 4. It states that at Gibeon was the "Great High Place." And the passages cited by Professor Orr, I and II Chronicles, give the reason. *The Tabernacle was there.* This is the argument from Undersigned Coincidence, now entirely ignored, though made abundant use of by writers such as Lardner, Paley and Blunt, clearer and sounder thinkers, I must believe, than many who have undertaken to instruct us since their day. *Why* should Gibeon be the "Great High Place," greater than any other? Kings states the fact, Chronicles gives the reason. *Why* should there have been *any* "High Places" in the days of David and Solomon? Once more Chronicles gives the reason. Because since the days of Eli the Ark had been in one place and the



Tabernacle at another. It is possible that the shiftings of the Tabernacle from place to place—from Shiloh to Nob, and from Nob to Gibeon—were in order to bring the Tabernacle and the Ark nearer together. Certainly Gibeon was a good deal nearer to Kirjath Jearim than Shiloh was. The whole question is worth fuller treatment. Thus it is clear that the word *heykal* does not necessarily mean Solomon's Temple, for we have the word *in the plural* in many parts of the Old Testament. *Heykal* means simply a large building, and in 1 Sam. i, 9, and iii, 3, it probably includes, not merely the Tabernacle, but buildings surrounding it to protect it from assault or plunder, as well as the "other structures" which Professor Orr suggests.

One remark I should like to add. On p. 106 the Professor criticizes the "schemes for the reduction of the numbers in the Exodus." I do not question his conclusions there. But there can be no doubt that the numbers in the Old Testament generally have fallen into confusion, either by the use of signs for numbers—signs which eventually became out of date, so that they were no longer understood—or for some other undiscovered reason. The best explanation of the difficulty is that of Mr. Harold Wiener, who has given much attention to Old Testament questions. He thinks that the "M" with which the word Meah (hundred) begins, when used to signify one hundred, as it does a thousand among ourselves, may have been confounded with "-im," the Hebrew plural, used in matters numerical for tens, and that, therefore, numbers may have sometimes been inadvertently multiplied or divided by ten.

To my mind the one thing needful at the present moment is full, fair, and free discussion of the whole critical question. As that able scholar Professor Flint said some years ago, it is time to "criticize the critics." I venture to say that the question will never be settled until argument takes the place of assertion, and all objections are fairly met and answered.

#### DR. ORR'S REPLY.

The discussion seems to deal largely with the merits or demerits of the general critical theory, which it did not fall within my province to discuss, rather than with the special question of the Tabernacle. My views on the critical theory may be seen at large in my book, *The Problem of the Old Testament*, and in more popular

form in *The Bible under Trial*. As will be seen from these volumes, it is not the case that I accept the documentary theory of the Pentateuch in any sense corresponding with the view of the critics, or carrying the work beyond the Mosaic age, and certainly I do not regard Deuteronomy as originating at or near the time of the discovery in the reign of Josiah. That view I have always strongly contested. For the rest, I can only thank the Members of the Institute for their kind reception of the paper.

527TH ORDINARY GENERAL MEETING.

MONDAY, FEBRUARY 19TH, 1912.

DAVID HOWARD, ESQ., VICE-PRESIDENT, IN THE CHAIR.

The Minutes of the previous Meeting were read and confirmed and the following elections were announced :—

MEMBER : Sir Robert Anderson, LL.D., K.C.B.

ASSOCIATES : Sir W. Mackworth Young, K.C.S.I.; Miss Cecilia Bramwell.

*THE REAL PERSONALITY OR TRANSCENDENTAL EGO. Illustrated by Physical Experiments.* By SYDNEY T. KLEIN, F.L.S., F.R.A.S.

IN the last paper I read before this Institution I attempted to show that what we call Time and Space have no real existence apart from our physical Senses, they are only modes or conditions under which those Senses act and by which we gain a very limited and illusory knowledge of our surroundings. Our very consciousness of living depends upon our perception of multitudinous changes in our surroundings, and our very thoughts are therefore also limited by Time and Space, because change is dependent on these two limits, the very basis of perceived motion being the *time* that an object takes to go over a certain *space*; we must therefore look behind consciousness itself, beyond the conditioning in Time and Space, for the true reality of Being. I concluded my paper with the suggestion that the true conception of the creation of the whole Physical Universe was the materialization of the Thought or Will of the Deity, He does not require time to think as we do, the whole Universe is therefore an instantaneous Thought of the Great Reality; the forming of this World and its destruction, the appearance of Man, the birth and death of each one of us, are absolutely at the same instant,

it is only from the fact of our finite minds requiring that Thought to be drawn out into a long line and from our want of knowledge and inability to grasp the whole truth that we are forced to conceive that one event happens before or after another. In our finite way we examine and strive to understand this wondrous Thought and at last a Darwin, after a lifetime spent in accumulating facts on this little spot of the Universe, discovers what he thinks to be a law of sequences and calls it the Evolution theory; but this is probably only one of countless other modes by which the intent of that Thought is working towards completion, the apparent direction of certain lines on that great tracing board of the Creator, whereon is depicted the whole plan of His work. I shall now try to carry our thoughts a step further towards appreciating that in this wonderful Thought of the Great Spirit, whose mind may be said to be omnipresent, each individual is a working unit in the plan of Creation, each unit as it gains knowledge of this thought, forms for itself a personality helping forward the great work to its fulfilment; without that knowledge there can be no personality, no unit in the great completed Thought, no life hereafter.

The longer one lives and the more one studies the mystery of "Being," the more one is forced to the conviction that in every Human Being there are two Personalities, call them what you like, "The *Real Personality* and its Image," "The *Spiritual* and its Material Shadow," or "The *Transcendental* and its Physical Ego." The former in each of these Duads is not conditioned in Time and Space, is independent of Extension and Duration, and must, therefore, be Omnipresent and Omniscient; whereas the latter, being subservient to Time and Space, can only think in finite words, requires succession of ideas to accumulate knowledge, is dependent on perception of movements for forming concepts of its surroundings and, without this perception, would have no knowledge, no consciousness of existence.

Let us first try and understand the conditions under which phenomena are presented to us. In our perception of sight we find the greater the Light the greater the shadow; a light placed over a table throws a shadow on the floor, though not sufficient to prevent our seeing the pattern of the carpet, but increase the light and the shadow appears now so dark that no pattern or carpet can be seen; not that there is now less light under the table, but the light above has to our sense of sight created or made manifest a greater darkness, and so, throughout

the Universe, as interpreted by our Physical Ego, we find phenomena ranging themselves under the form of positive and negative, the Real and the Unreal.

The Good ...	making manifest its negative ...	the Evil.
The Beautiful	” ” ” ”	... the Ugly.
The True ...	” ” ” ”	... the False.
Knowledge...	” ” ” ”	... Ignorance.
Light ...	” ” ” ”	... Darkness.
Heat ...	” ” ” ”	... Cold.

but the negatives have no real existence. As in the case of Light we see that the shadow is only the absence of light, so the negative of Goodness, *i.e.*, Evil, may in reality be looked upon as folly or wasting of opportunity for exercising the Good, but owing to their limitations our thoughts are based upon *relativity*, and it is hardly thinkable that we could, under our present conditions, have any cognizance of the positive without its negative, and it is therefore by the examining of the Physical, the negative or shadow, that we can best gain a knowledge of the Spiritual, the positive or real.

It is between the Spiritual and the Physical, the Real and its Image, Good and Evil, the Knowledge and Ignorance of the Good, Beautiful and True, that Freewill has to choose. Let us try to get a clearer understanding of this, First let us clearly recognize that it is not we (the Physical Egos) who are looking out upon Nature, but that it is the Reality or Spiritual which is ever trying to enter and come into touch with us through our senses, and is persistently trying to waken within us the sublimest truths; it is difficult to realize this as from infancy we have been accustomed to confine our attention wholly upon the objective, believing that to be the reality; in the sense of Sight we have no knowledge of the only impression made upon our bodies, namely the image itself formed upon our retina, nor have we any cognizance of the separate Electro-magnetic rills which, reflected from all parts of the object, fall upon the eye at different angles constituting form, and at different frequencies giving colours to that image; that image is only formed when we turn our eyes in the right direction to allow those rills to enter, whereas those rills are incessantly beating on the outside of our sense organ, when the eyelid is closed, and can make no image on the retina, unless we allow them to enter by raising that shutter; it is not then any volition from within that goes out to seize upon and grasp the truths of Nature, but the phenomena are, as it were, forcing

their way into our consciousness. This is more difficult to grasp when the objective is near, as we are apt to confound it with our sense of touch, which requires us to stretch out our hand to the object, but it is clearer when we take an object far away.

In our telescopes we catch the rills of light which started from a star a million years ago and the image is still formed on the retina, although those rills are a million years old and have been falling upon mankind from the beginning of life on this Globe, ready to get an entrance to consciousness; it was only when, by evolution of thought, the knowledge of Optics had evolved the telescope, that it became possible, not only to allow that star to make itself known to us but to teach us its distance, its size and conditions of existence, and even the different Elemental substances of which it was composed a million years ago; yet, when we now allow it to form its image on the retina, our consciousness insists on fixing its attention upon that star, refusing to allow that it is only an image on our retina and making it difficult to realize that that Star may have disappeared and had no existence for the past 999,999 years, although in ordinary parlance, we are looking at and seeing it there now.

I have referred to the sense of touch: it is, I think, clear that the first impression a child can have of sight must take the form of "feeling" the image on its retina, as though the object were actually inside the head, and it could have no idea that the object was outside, until, by touching with the hand, it would gradually learn by experience that the tangible object corresponded with the image located in the head: this is borne out by the testimony of men who, born blind, had by an operation received their sight late in life: their first experience of seeing gave the impression that the object was touching the eye, and they were quite unable to recognize by sight an object which they had often handled and knew perfectly well by touching: in fact, the idea of an object formed by the sense of touch is so absolutely different to that formed by the sense of sight that it would be impossible without past experience to conclude that the two sensations referred to one and the same object. The image formed on the retina has nothing in common with the sense of hardness, coldness and weight experienced by touch, the only impression made on the retina being that of colour or shades and an outline; it is, however, hardly conceivable that even the outline of form would be recognized by the eye, until touch had proved that form comprised also solidity, and that the two ideas had certain motions in common both in duration of time and extension in space. Again, our sense of

sight and hearing are alike based on the appreciation of vibrations or frequencies of different rapidity; brightness and colour in light are equivalent to loudness and pitch in sound, but in sound we have no equivalent to perception of form or situation in space, we have no knowledge of the existence of an object when situated at great distances, nor can we follow its movements even at shortest distances without having material contact with that object: light indeed appears to have to do with Space—and Sound with Time—perception.

In examining Nature, by means of our senses, we are in this position:—We find that Perception without knowledge leads to false concepts, which lead us into difficulties, and this fact is indeed our greatest incentive to acquire further knowledge; but our thoughts are so hemmed in by what we have always taken for granted, and so bound down by modes of reasoning derived from what we have seen, heard, or felt in our daily life, that we are sadly hampered in our search after the truth. It is difficult to sweep the erroneous concepts aside and make a fresh start. In fact, the great difficulty in studying the reality underlying Nature is analogous to our inability to isolate and study the different sounds themselves which fall upon the ear, without being forced to consider the meaning we have always attached to those sounds, when words of our own language are being uttered; however hard we may try, it is hardly possible when hearing the sound to dissociate the meaning or prevent our mind from dwelling upon the thoughts which have hitherto been allocated to those sounds. Our other great difficulty is that our Physical senses only perceive the surface of things, we are most of us looking upon the woof of Nature as though it were the glass of a window upon which are seen patterns, smudges, dead flies, etc.; it requires a keener perception than that of sight to enable us to look through the glass at the Reality which is beyond. Let us, therefore, now try and see when and how this higher perception was first given to humanity.

Let us go back into the far distant past, before the frame and brain of what we now call the genus homo was fully developed; he was then an animal pure and simple, conscious of living but knowing neither good nor evil, there was nothing in his thoughts more perfect than himself, it was the golden age of innocency, a being enjoying himself in a perfect state of Nature with absolute freedom from responsibility of action; but, as ages rolled on, under the great law of evolution, his brain was enlarging and gradually being prepared for a great and

wonderful event which was to make an enormous change in his mode of living and his outlook on the future. As seeds may fall continually for thousands of years upon hard rock without being able to germinate, until gradually, by the disintegration of the rock, soil is formed, enabling the seed at last to take root, so for countless ages was the mind of that noble animal being prepared until, in the fulfilment of time, the Spiritual took root and he became a living soul. The change was marvellous ; he was now aware of something higher and more perfect than himself, he found that he was able to form ideals above his ability to attain to, resulting in a sense of inferiority akin to a Fall, he was conscious of the difference of Right and Wrong and felt happy and blessed when he followed the Good, but ashamed and accursed when he chose the Evil ; he became upright in stature and able to communicate his thoughts and wishes to his fellows by means of language, and by feeling his freedom to choose between the Good, Beautiful, and True, on the one hand, and the Evil, Ugly, and False, on the other, he became aware that he was responsible and answerable to a mysterious higher Being for his actions. All these at once raised him far above other animals and he gradually began to feel the presence within him of a wonderful power, the nucleus of that Transcendental Self which had taken root and which, from that age to this, has urged Man ever forward, first to form, and then struggle to attain, higher Ideals of Perfection. As a mountaineer who with stern persistence struggles upward from height to height, gaining at each step a clearer and broader view, so do we, as we progress in our struggle upwards toward the understanding of Perfection ever see clearer and clearer that the Invisible is the Real, the visible is only its shadow, that our Spiritual Personality is akin to that Great Reality, that we cannot search out and know that Personality, it cannot be perceived by our senses, it is not an idea, any more than we can see a Sound by our sense of Sight or measure an Infinity by our finite units ; all we can so far do is to feel and mark its effect in guiding our Physical Ego to choose the real from the shadow, the plus from the minus, receiving back in some marvellous mode of reflex action the power to draw further nourishment from the Infinite. As that Inner Personality becomes more and more firmly established, higher ideals and knowledge of the Reality bud out, and, as these require the clothing of finite expressions before they can become part of our consciousness, so are they clothed by our Physical Ego and become forms of thought ; and, although the Physical Ego is only the shadow, or image projected on the physical screen, of the



Real Personality, we are able by examining these emanations and marking their affinity to the Good, the Beautiful, and the True, to attain at times to more than transient glimpses of the loveliness of that which is behind the veil. As in a river flowing down to the Sea, a small eddy, however small, once started with power to increase, may, if it continues in mid-stream, instead of getting entangled with the weeds and pebbles near the bank, gather to itself so large a volume of water that, when it reaches the sea, it has become a great independent force; so is each of us endowed, as we come into this life, with a spark of the Great Reality, with potential to draw from the Infinite in proportion to our conscientious endeavours to keep ourselves free from the deadening effects of mundane frivolities and enticements, turning our faces ever towards the light rather than to the shadow, until our personality becomes a permanent entity, commanding an individual existence when the physical clothing of this life is worn out and, for us, all shadows disappear.

If man became a conscious being on some such analogous lines as indicated, it is clear that he is, as it were, the offspring of two distinct natures and subject to two widely separated influences; the Spiritual ever urging him towards improvement in the direction of the Real or Perfect, and the Physical or Animal instincts inviting him in the opposite direction; these latter instincts are not wrong in themselves, in a purely animal nature, but are made manifest as urging in the direction of the shadow or Imperfect when they come in contact, and therefore in competition, with the Spiritual. Neither the Spiritual nor the Physical can be said to possess Free-will, they must work in opposite directions, but this competition for influence over our actions provides the basis for the exercise of man's Free-will: the choice between progression and stagnation. The Spiritual influence must conquer in the long run as every step under that influence is a step towards the Real and can never be lost, the apparent steps in the other direction are only negative or retarding and can have no real existence except as a drag on the wheel which is ever moving in the direction of Perfection, thus hindering the process of growth of the Personality.

The stages in development of the Physical Ego and its final absorption in the Transcendental may perhaps be stated as follows:—

The Physical Ego loquitor:—

“I become aware of being surrounded by phenomena,—I will to see,—I perceive and wonder what is the meaning of

everything,—I begin to think,—I reflect by combining former experiences—I am conscious that ‘I am’ and that I am free to choose between Right and Wrong but that I am responsible for my actions to a higher power; that what I call ‘I am’ is itself only the shadow or in some incomprehensible sense the breathing organ, of a wonderful divine *Afflatus* or Power which is growing up within, or in intimate connection with me, and which itself is akin to the Reality. Owing to my senses being finite I cannot with my utmost thought form a direct concept of that power although I feel that it comprises all that is good and real in me, and is, in fact, my true personality; I am conscious of it ever urging me forward towards the Good, Beautiful, and True, and that each step I take in that direction (especially when taken in opposition to the dictates of physical instincts) results in a further growth of that Transcendental Self; with that growth I recognize that it is steadily gaining power over my thoughts and aspirations. I learn that the whole physical Universe is a manifestation of the Will of the Spiritual, that every phenomenon is, as it were, a sublime thought, that it should be my greatest individual aspiration to try to interpret those thoughts, or when, as it seems at present, our stage in the evolution of thought is not far enough advanced, I should, during my short term of life, do my best to help forward the knowledge of the Good, Beautiful, and True for those who come after. As I grow old the Real Ego in me seems to be taking my place, the central activity of my life is being shifted as I feel I am growing in some way independent of Earthly desires and aspirations, and, when the term of my temporary sojourn here draws to a close, I feel myself slackening my hold of the physical until at last I leave go entirely and my physical clothing, having fulfilled its use, drops off and passes away, carrying with it all limitations of Time and Space.—I awake as from a dream to find my true heritage in the Spiritual Universe.”

If we try to form a conception of the stages of growth of the Transcendental Self it would, I think, be somewhat as follows:—

The first consciousness of the	I know that Love is the Sum-
Spiritual entity would be	mum bonum.
As it became nourished it	I love.
would be	

Then	...	...	...	...	I love with my whole being.
Then	...	..	...	...	I know that I am part of God and God is love.
And lastly	...	...	...	...	I am perfected in Loving and Knowing.

If we now try to consider the connection between the Spiritual and Physical Ego, we have to recognize that the Human Race is still in its infancy, we still require Symbolism to help us to maintain and carry abstract thought to higher levels, even as children require picture books for that purpose. With all our advance in knowledge during the last hundred years we are indeed still as children playing with pebbles on the seashore, knowing neither why we are placed there nor what those pebbles are or whence they come. Though we seem ever to be discovering fresh truths concerning the relations of these pebbles among themselves when arranged in different patterns, built up into new forms, or split up into smaller fragments, we have to acknowledge (substituting thoughts for pebbles) that we are still only learning our alphabet and the simple rules of multiplication, addition, and division, which must be mastered before we can hope to take the real step towards understanding; we are surrounded by mysteries, we are indeed a mystery to ourselves, we do not know even how the Physical Ego is connected with the physical world; how the sense organs, receiving the impression of multitudinous and diverse frequencies of different intensities and amplitudes, transmit them to the brain, and how the mind is able to combine all these impressions and form concepts. We have but lately learnt that our senses can only be affected by changes or movement in matter or in the all-pervading ether, that they can only act under certain specific modes which we call Time and Space and that, as our conceptions are based on knowledge limited by these two modes, we have, apart from "Revelation," no means of knowing the Transcendental except by noting its effect upon the Physical. By examining the Physical Universe we seem to see clearly, however, that the only Reality is the Spiritual, the Here and the Now, that our real Personality being Spiritual is independent of Space and Time limitation and is, therefore, Omnipresent and Omniscient; it may, indeed, be not solely connected with the Physical Ego of this world, but in close working connection with other Physical Egos in the Universe, and may in some wonderful process, through its affinity with the Great Spirit, be helping the

others to bring the wonderful thought to completion in other directions possibly quite beyond our power to conceive under the conditions we are accustomed to here.

A great forest tree forms each year a multitude of separate buds; each of these buds is an independent plant which has only a temporary existence and has no present knowledge of the other buds, but it is by means of all these buds and the leaves they develop, that the tree is nourished and increases from year to year. Still more wonderful is the fact that it is these temporary existences which, in accordance with the general law of life-reproduction, form special ovules which we call seeds, each of which has the potentiality for growing up into a great forest tree, which, in its turn, is capable of pushing forth temporary existences in countless directions. We have in the above process of creating a Forest Tree a likeness on the Physical plane to what I would suggest is the process, not only of the creation of the Race, but on the Transcendental Plane the multiplication of permanent personalities by means of, or in connection with, the temporary and Space-limited Human Physical Ego.

Again, as the Human mind forms a thought, clothes it in Physical language, and sends it forth in such a form as not only affects our material sense of hearing but conveys to the hearer the very thought itself, so the whole Physical Universe is a temporary and Space-limited representation of the Reality which is behind, is, in fact, the materialization of the Will or Thought of the Great Spirit. The "taking root" or advent of the Spiritual to the genus homo made it possible for man to interpret the Good, Beautiful, and True in the phenomena of Nature, and as we, by studying these materializations, gain knowledge of the Reality, and our personalities become real powers, so may we at length approach the point where we may feel that we are thinking, or having divulged to us, the very thoughts of God; and, though it may never be possible in this life to form a full conception of the Reality, we may, I think, even with our present state of knowledge, aspire to understand the messages conveyed to us in some of the multitudinous forms under which these thoughts are presented to us, and I propose giving you an example of this later on.

Once more, in the case of a picture, it is possible, by examining and comparing a number of certain short lines in perspective, to discover not only the position occupied by the Artist but also the point to which all those lines converge, so (as I attempted in my former paper) by examining and combining certain lines of

Thought on the Physical Plane and following them as far as we can with our present knowledge towards the point where our Ideals of the Good, Beautiful, and True intersect, we may reach the position from which we may be able to form, although through a glass darkly, even a conception of the Great Reality, and therefore of Its Offspring the Transcendental Ego, and its connection with the Universe.

As the whole of Nature is the temporary and Space-limited manifestation of the Reality, so the individual Physical Ego is the manifestation in Time and Space of the True Personality, it is its transcendent expression and has no other use beyond this life. Each Physical Ego helps or should help forward the general improvement of the Race towards perfection. Each generation should come into being a step nearer to the Spiritual until it can be pictured that at the final consummation there will be nothing imperfect, no shadow left; the full complement of Spiritual Personalities being complete in the Great All-Father.

I would like now to attempt to show, to those of my hearers who have followed my argument and are able to make use of the conclusions we have come to, that it is quite possible for some of us at times to realize how real and near to us the Transcendental Ego is, and, at that moment, to get a glimpse of even that which we are told "Eye hath not seen nor ear heard, nor hath entered into the heart of man." I would first ask you to try and realize clearly in your mind that the only absolute Reality is the Spiritual, and that Matter, Space and Time have no existence apart from our finite senses. Those of you who have been through a certain experience, to which I shall refer, will have no difficulty in following me, and among even those who have not felt what may be called the Mystical Sense, there will be some who will recognize, in what I have to say, something they have felt more than once in their lives, and to all these I address the following:—

I have already given you the best description I can formulate of the growth of the Transcendental Ego, and this is therefore also the mode of development of that Mystical Sense, the Eye of the Soul, by means of which we can get our glimpse beyond the Physical Veil.

I will try to give my own experience of this, which will, I know, wake an echo in other hearts, as I have met those who have felt the same. From a child I always had an intense feeling that love was the one thing above all worth having in life, and as I grew older and became aware that my real self

was akin to the Great Spirit, I at certain times of elation, or what might be called a kind of ecstasy, had an overpowering sense of longing for union with the Reality, an intense love and craving to become one with the All-loving. When analyzed later in life this was recognized as similar in kind, though different in degree, with the feeling which, when in the country surrounded by charming scenery, wild flowers, the depths of a forest glade or even the gentle splash of a mountain stream, makes one always want to open one's arms wide to embrace and hold fast the beautiful in Nature, as though one's Physical Ego, wooed by the Beautiful, which is the sensuous (not sensual) expression of the Spiritual, longed to become one with the Physical, as the Personality or Transcendental Ego craves to become one with the Reality. It is the same intense feeling which makes a lover, looking into the eyes of his beloved, long to become united in the perfection of loving and knowing, to be one with that being in whom he has discovered a likeness akin to the highest ideal of which he himself is capable of forming a conception. As in heaven, so on earth the Physical Ego, though only a Shadow, has in its sphere the same fundamental characteristic craving as the Transcendental Personality has for that which is akin to it, and it is this wonderful love that, as the old adage says, makes the world go round. It is the most powerful incentive on earth and is implanted in our natures for the good and furtherance of the Race; it is, in fact, the manifestation, on the material plane, of that craving of the Inner-self for union with, and being perfected in loving and knowing that Infinite love of which it is itself the likeness. If we can realize that everything on the Physical plane is a shadow, symbol, or manifestation, of that which is in the Transcendental, the Mystical Sense, through contemplating these as symbols, enables us at certain times, though, alas, too seldom and of too fleeting a character, to get beyond the Physical. Those of my hearers who have been there will know how impossible it is to describe in direct words which would carry any meaning, either the path by which the experience is gained or a true account of the experience itself; but I will try and I think I may be able to lead, by indirect inductive suggestion, to a view of even these difficult subjects, by using the knowledge we have already gained in our examination. If an artist were required to draw a representation of the Omniscient transcendental self, budding out new forms of thought in response to the conscientious efforts and the providing of suitable clothing, by the Physical Ego, he would be obliged to make use of symbolic forms, and I want to make it

quite clear that the description I am attempting must necessarily be clothed in Symbolic language and reasoning, and must not be taken as in any way the key by which the door of "The Sanctuary" may be opened; it is only possible by it to help the mind to grasp the fact that there is a window through which such things may be seen, the rest depends upon the personality of the Seer. Now bear in mind that it is not we who are looking out upon Nature but that it is the Reality which, by means of physical manifestations, is persistently striving to enter into our consciousness, to tell us what? Θεός ἀγάπη ἐστίν. As in Thompson's suggestive poem, "The Hound of Heaven,"—The Hidden which desires to be found—the Reality which is ever hunting us and will never leave us till He has taught us to know and therefore to love Him; and, as we have seen, the first step is to try to see through the woof of Nature the Reality beyond. To this may also be added the attempt to hear the "silence" beyond the audible. Try now to look upon the whole "visible" as a background comprising landscape, sea, and sky, and then bring that background nearer and nearer to your consciousness; it requires practice but it can be done. It may help you if you remember the fact that the whole of that visible scene is actually depicted on the surface of your retina and has *no other existence for you*; the nearer you can get the background to approach the clearer you can see that the whole physical world of our senses is but a thin veil, a mere soap film, which at death is pricked and parts asunder, leaving us in the presence of the Reality underlying all phenomena. The same may be accomplished with the "audible" which is, indeed, part of the same physical film, though this is not at first easy to recognize. As already pointed out, there is little in common between our sense of Sight and Hearing; but the chirp of birds, the hum of bees, the rustle of wind in the leaves, the ripple of a stream, the distant sound of sheep bells and lowing of cattle, form a background of sound which may be coaxed to approach you; the only knowledge you have of such sounds is their impression or image on the flat tympanum of your ear and they have *no other existence for you*, and again you may recognize that the physical is but a thin transient film. With the approach of the Physical film all material sensation becomes, as it were, blurred, as near objects become when the eye looks at the horizon, and gradually escapes from consciousness.

I have tried in the foregoing to suggest a method by which our window may be unshuttered, it has necessarily been only an oblique view and clothed in Symbolic phraseology, but those who

have been able to grasp its meaning will now have attained to what may be called a state of *self-forgetting*, the silencing or quieting down of the Physical Ego ; Sight and Sound perceptions have been put in the background of Consciousness and it becomes possible to worship or love the very essence of beauty without the distraction of sense analysis and synthesis or temptation to form intellectual conceptions. We are now prepared to attempt the last and most difficult aspect of our investigation, namely, the description of what is experienced when the physical mists have been evaporated by the Mystical Sense ; again we find that no direct description is possible, language is absolutely inadequate to describe the unspeakable, communications have to be physically transmitted in words to which finite physical meanings have been allocated ; the still small voice which may, at times of Rapture, be momentarily experienced in Music, is something much more wonderful than can be formed by sounds and this perhaps comes nearest to the expression necessary for depicting the vision of the soul, but it cannot be held or described, it is quickly drowned by the physical sense of audition. As the Glamour of Symbolism can only be transmitted to one who has passed the portal of Symbolic Thought, the Rapture of Music can only be truly understood by one who has already experienced it and the Ideal of Art requires a true artistic temperament to comprehend it, so it is, I believe, impossible to describe, with any chance of success, this wonderful experience to any one but those whom Mr. A. C. Benson, in his "Secret" of the Thread of Gold, very aptly describes as having already entered the "Shrine." Those who have been there will know that it is not at all equivalent to a vision, it is not anything which can be seen or heard or felt by touch ; it is entirely independent of the Physical Senses ; it is not Giving or Receiving, it is not even a receiving of some new knowledge from the Reality ; it has nothing to do with Thought or Intellectual gymnastics, all such are seen to be but mist ; the nearest description I can formulate is :—A wondrous feeling of perfect peace ;—absolute rest from physical interference—true contentment—the sense of "Being" one-with-the-Reality, carrying with it a knowledge that the Reality or Spiritual is nearer to us and has much more to do with us than the Physical has, if we could only see the truth and recognize its presence ;—that there is no real death ;—no finiteness and yet no Infinity ;—that the Great Spirit cannot be localized or said to be anywhere but that everywhere is God ;—that the whole of what we call Creation is an instantaneous Thought of the Reality ;—that it



is only by the process of analysing in Time and Space that we imagine there is such a thing as succession of events ;—that the only Reality is the Spiritual, the Here embracing all space and the Now embracing all Time.

How few of us who are now drawing towards the end of our sojourn here, have not, at certain times during their lives, experienced something akin to what I have tried to put before you in the above. Does not a particular scent, a beautiful country scene, a phrase in Music, the beauty or pathos in a picture, symbolic sculpture in a grand Cathedral or even a chance word spoken in our hearing, every now and then waken in our innermost consciousness an enchanting memory of some wonderful happy moment of the past, when the sun seemed to have been shining more brightly, the birds singing more merrily, when everything in Nature seemed more alive and our very being seemed wrapped up in an intense love of our surroundings? On those occasions we were not far from seeing behind the veil, though we did not recognize it at the time, but when we now look back, with experience gained by advancing years, and consider those visions of the past, we cannot help but see that the physical film was to our eyes more transparent at those times, and the very joy of their remembrance seems to be giving us a prescience of that which we shall experience when for each one of us the physical film is pricked and passes away like a scroll.

As long as we are on this side of the Veil we are, as we have already seen, dependent for knowledge of surroundings upon our perception of movements and, as our Conceptional Knowledge is based on Perceptual Knowledge, our very thoughts are under the limits of Time and Space and can only deal with finite subjects ; from this arises all our difficulty of understanding the Infinite, we cannot know the whole truth, we can only think of one finite subject at a time, and at that moment all other subjects are cancelled ; we can, in fact, only think in sequences, we can only think of points in Time and Space as existing beyond or before other fixed points, which again must be followed by other points. The whole Truth is there before us but we can only examine it in a form of finite sequences. A Book contains a complete story but we can only know that story by taking each word in succession and insisting that one word comes in front of another and yet the Story is lying before us complete. So with Creation, we are forced to look upon it as a long line going back to past eternity and another long line going on to future eternity and, with our limitations, we can

only think of all events therein as happening in sequence ; but eliminate Time and the whole of Creation is there as an Instantaneous Thought of God. Under the dominion of *Time* we appear to be in a similar position to that of a being whose senses are limited to one-dimensional space, namely, to a *line*, we can only have cognizance of what is in front and behind, we have no knowledge of what is to the right or left, we appear to be limited to looking lengthwise in Time whereas an Omniscient and Omnipresent Being looks at time crosswise and sees it as a whole. A small light when at rest appears as a point of light, but when we apply quick motion, the product of Time and Space, to it, we get the appearance of a line of light, and this continuous line of light, formed by motion of a point, is, I think, analogous to the Physical Universe appearing to our finite senses as continuous in Time duration and Space extension, though really only comprised in the Now and the Here and the whole of Creation being an instantaneous Thought. A consideration of our limitation under the dominion of *Space* may also be useful to show how impossible it is for us to hope to see by our Senses the Reality or by our Thoughts to know the Spiritual. Our Senses and Thoughts are limited to a Space of three dimensions and we can therefore only see or know that part of the Spiritual which is or can be represented to us in three dimensions ; a being whose senses were limited to a Universe of one dimension, namely, a *line*, could have no real knowledge of another being who was in a Universe of two dimensions, namely, a *flat surface*, except so far as the two-dimensional being could be represented within his line of Sensation ; so also the two-dimensional being could have no true knowledge of a being like ourselves in a universe of three dimensions :—To his thoughts, limited within two dimensions, a being like ourselves would be unthinkable, except so far as our nature could be made manifest on his plane ; so can it be seen that we, limited by our finite senses to Time and Space, and our consciousness dependent upon that limited basis of thought, can only know that aspect of the Reality which can be manifested within that range of thought, namely, as Motion or what we call Physical phenomena.

Do we not then see clearly that the Physical Ego comprised in what we call "I am," "I perceive," "I think," "I know," "I remember," is transient and has only to do with the progress of the Race ; it is the Shadow or Image in the Physical Universe of that Personality which Transcends Time and Space ; take away a small portion of the brain and Memory

is wiped out, remove the greater part of it and the Physical Ego is destroyed, though the body is as much alive as before; there is apparently nothing left but the physical life which it has in common with all animals and plants and probably, as strongly suggested by late discoveries in Radio-activity, even with what is called inorganic matter. Let me now put before you a connection between the Transcendental Personality and the Physical Ego, which I consider one of the greatest miracles on earth, though of every-day occurrence. The Inner Self of each one of us being part of the Reality, and therefore independent of Time and Space, is Omniscient; it is from this store of Knowledge that our Physical Ego is ever trying to win fresh forms of thought and, in response to our persistent endeavours, that Inner self, from time to time, buds out an ethereal thought; the Physical Ego has already prepared the clothing with which that bud must be clad before it can come into conscious thought, because, as Max Müller has shown us, we have to form words before we can think; so does the Physical Ego clothe that Ethereal Thought in physical language, and, by means of its organ of speech, it sends that thought forth into the air in the form of hundreds of thousands of vibrations of different shapes and sizes, some large, some small, some quick, some slow, travelling in all directions and filling the surrounding space; there is nothing in those vibrations but physical movement, but each separate movement is an integral part or thread of that clothing. Another Physical Ego receives these multitudinous vibrations by means of its sense organs, weaves them together into the same physical garment and actually becomes possessed of that Ethereal Thought; and this acquisition may in turn enable him to win fresh knowledge from his own Real Personality. Now consider, in connection with this wonderful phenomenon, the fact already emphasized that it is not we who are looking out upon Nature, but that it is the Reality which is ever trying to make itself known to us by bombarding our sense organs with the particular physical impulses to which those organs can respond; and if we aspire to gain a knowledge of that which is behind the Physical, it is clear that all our endeavours must be towards weaving those impulses into garments and to learn from them the sublime truths which the Reality is ever trying to divulge to us.

In the last forty years we have entered upon a new era of religion and philosophy, we hear no more of the old belief that the study of scientific facts leads to Atheism or irreligion, we

begin to see that Religion and Science must go hand in hand towards elucidating the Riddle of the Universe, and such a change makes it possible for a layman not only to attempt to read such a paper as the present before your Institution, but to even aspire to show, as I now propose to do by physical experiments, that it is possible by examining certain phenomena in Nature to reach that point where we may even feel that we are listening to and understanding, though through a glass darkly, one of what may be called the very Thoughts of the Great Reality.

I will take for physical examination the subject most intimately connected with the title of this paper, namely: The nature of the growth of the Transcendental Personality, upon what does that growth depend, and how may we understand that the attainment to Everlasting Life is dependent upon that growth?

I have already pointed out that the Transcendental Personality being Spiritual, and therefore akin to the Great Reality, may be said to have no free-will of itself. Its will or influence must always be working towards perfection in the form, "Let Thy Will, which is also my will, be done"; the efficacy of its influence with the Great Reality depends on its growth, or nourishment by the knowledge of the Good, Beautiful, and True, ever bringing it nearer and nearer into perfect touch or sympathy with the All-loving. The power of prayer, therefore, depends upon two conditions; it must be in the form of "Let Thy Will be done," and that which prays must be capable of making its petition felt by having already gained a *knowledge* of what that Will is.

If now we carefully examine the Phenomena around us we make the extraordinary discovery that this power to influence is the very basis of survival and of progress throughout the universe. In the Organic world all Nature seems to be praying in one form or another, and only those that pray with efficacy, based upon the above two conditions, survive in the struggle for existence. The economy of Nature is founded upon that inexorable law, the "Survival of the Fittest"; every organism that is not in sympathy with its environment, and cannot, therefore, derive help and nourishment from its surroundings, perishes. Darwin tells us that the colours of flowers have been developed by the necessity of plants attracting the Bees, on whose visits depends the power of plants to reproduce their species; those families of plants which do not, as it were, pray to the Bees with efficacy, fail to attract and disappear without leaving successors. Flowers may also be

said to be praying to *us* by their beauty, or usefulness, in some cases, as with Orchids, by their marvellous shapes. We answer their prayer by building hot-houses and tending them with care because they please us and therefore we help them to live; while, on the contrary, those plants that have not developed these qualities are not only neglected but, in some cases, as with weeds, we take special trouble to exterminate them because their existence is distasteful to us. Darwin also tells us that Heredity and Environment are the prime influences under which the whole Organic World is sustained. In other words, every organism has implanted in it by Heredity the principle of life, but the conditions under which it will be possible for that life to expand and come to perfection rest entirely upon its power to bring itself into harmony with its environment; this principle of life does not come naked into the world, it is fortified by Heredity with powers gained by its parents in their struggle for existence, and in their persistence to get into sympathy with their environment. The knowledge they gained by this struggle they have handed down to their offspring and given it thereby the possibility of also gaining for itself that knowledge of, and power to get into sympathy with, its environment, upon which its future existence will depend; so, may we not see that, in the Spiritual World, these two conditions dominate, and that it is only by the clear comprehension of their reality that we can understand how all-important it is for the soul to bring itself nearer and nearer into harmony with its environment, the Spiritual, and how the efficacy of prayer depends upon the Knowledge of what is the Will of God. We have received from our Spiritual Father the principle of Everlasting Life and the aspirations which, if followed, will enable that life to expand and come to perfection, but, as in the case of physical organism, the gift is useless unless we elect to use those aspirations aright and gain thereby a knowledge of our Spiritual Environment, which alone can bring us into sympathy with the Great Reality. Without this Knowledge of God we can see by analogy on the Organic Plane that Everlasting Life is impossible: we are as weeds and shall be rooted out. This is no figment of the imagination; it seems to be the only conclusion we can come to if Nature is the work of Nature's God, and Man is made in the image (Spiritual) of that God. Herbert Spencer came to the same conclusion when defining everlasting existence. He says: "Perfect correspondence would be perfect life; were there no changes in the environment but such as the organism had adapted changes

to meet, and were it never to fail in the efficiency with which it met them there would be *Eternal Existence* and *Eternal Knowledge*" (*Principles of Biology*, p. 88). If we now follow the same Thought by examining the Inorganic, we again make the extraordinary discovery that this power to influence, based on sympathetic action, is the very mainspring by which physical work can be sustained, and upon it also depends entirely the very action of our physical senses. Our senses are based upon the appreciation of Vibration in the Air and Ether, of greater or less rapidity, according to the presence in our Organs of processes capable of acting in sympathy with those frequencies. The limits within which our senses can thus be affected are very small. The ear can only appreciate thirteen or fourteen octaves in sound and the eye less than one octave in light; beyond these limits, owing to the absence of processes which can be affected Sympathetically, all is silent and dark to us. This capability for responding to vibration under sympathetic action is not confined to Organic Senses; the Physical forces, and even inert matter, are also sensitive to its influences, as I will now demonstrate to you.

In wireless telegraphy it is absolutely necessary that the transmitter of the electro-magnetic waves is brought into perfect sympathy or harmony with the receiver, without that condition it is impossible to communicate at a distance. Again, a heavy pendulum or swing can, by a certain force, be pushed, say an inch from its position of rest, and each successive push will augment the swing, but only on one condition, namely, that the force is applied in sympathy with the pendulum's mode of swing; if the length of the pendulum is fifty-two feet, the force must be applied only at the end of each eight seconds, as, although the pendulum at first is only moving one inch, it will take four seconds to traverse that one inch, the same as it would take to traverse ten feet or more, and will not be back at the original position till the end of eight seconds; if the force is applied before that time, the swing of a pendulum would be hindered instead of augmented; even a steam engine must work under this influence if it is to be effective; there may be enough force in a boiler to do the work of a thousand horse power, but unless the slide valve is arranged so that the steam enters the cylinders at exactly the right moment, namely in sympathy with the thrust of the piston, no work is possible.

In order to bring this subject of influence by sympathetic action clearly to your minds, I have arranged the following

simple experiments. I want you first to recognize that, apart from its physical qualities, every material body has certain, what may be called, traits of character, which belong to it alone; there is generally one special trait or partial, namely, the characteristic, which it is easiest for the particular body to manifest, but I shall be able to show you that by sympathetic action others can be developed. I have here several pieces of ordinary wood used for lighting fires, each of which according to its size and density has its special characteristic; if you examine each by itself you will hardly see that they are different from one another except slightly in length, but when I throw them down on the table you will hear that each of them gives out a clear characteristic note of the musical scale. To carry this a step forward I have here a long heavy iron bar, so rigid that no ordinary manual force can move it out of the straight, and, from mere handling, you would find it difficult to imagine that it could be amenable to soft influences; but I have studied this inert mass, and as each person has special characteristics, some being more partial than others to, say, literary pursuits, athletics, music, poetry, engineering, science, or metaphysics, so I shall be able to show you at the close of this meeting that this iron mass has not only a number of these "partials," some of which are extraordinarily beautiful and powerful, but that by the lightest touch of certain instruments, each of which has been put into perfect sympathy with one of those traits, I can make that mass demonstrate them to you both optically and audibly; but without those sympathetic touches it is silent and remains only an inert mass. This result is obtained by physical contact between the instrument and the mass: but we will now carry this another step forward and deal with the subject of the action of Influence at a distance, or what may be called Prayer, between two of these rigid masses. From what we have already seen it is clear that the Soul of man could not possibly pray with efficacy to a graven image—there is nothing in sympathy between them, and, without sympathetic action, influence is impossible, but it is quite possible for Matter to pray with efficacy to Matter, provided the material soul, if we may use the analogy, is brought into perfect sympathy with the material god, and I can now put before you an experiment showing this taking place.

I have here another heavy bar of iron and have found its strongest characteristic, I have in my hand a small instrument fashioned so that its characteristic is in perfect sympathy with that of the bar, namely, that the number of vibrations, in a second,

of the instrument is exactly equal to that of the iron mass, and it is therefore, as we saw in the last experiment, able to influence the bar sympathetically; you will see that the slightest touch throws the bar into such violent vibration that a great volume of sound is produced, which could be heard a quarter of a mile away. The result of this sympathetic touch is far from being transient, in fact the bar will continue to move, audibly, for a long time. This movement in the mass of iron was started by physical contact, but having once started the bar praying, willing, or thinking, whichever you like to call it, that bar now has the power to affect, without contact, another bar of iron even when removed to great distances, provided the second bar possesses a similar characteristic and that that characteristic has been brought into perfect sympathy with that of the first bar. I have here a second bar which fulfils these conditions, and, although at the outset it had no power whatever to respond, it has been gradually, as it were, educated, namely, brought nearer and nearer into sympathy with the first bar, until it is now able, as you can hear, to respond across long distances, even the whole length of this hall. We will now reverse the process of bringing these bars into sympathy and I will throw the first out of harmony by slightly changing its characteristic; the change is extremely small, quite unappreciable to the human ear, the bar giving out as full and pure a note as it did before the alteration was made, in fact, the change is so slight that it can still, with a little force, be stimulated by the same generator, and yet the whole power to influence has been lost; you can hear that the first bar, although it is praying with great force, gets no response from the second bar, and even if the bars are now brought on to the same table and put within a few inches of each other there is still no reply, there is no sympathetic action, the efficacy of prayer between the two has been lost.

Do we not then see the principle upon which the efficacy of Prayer depends; the whole object of a Human Soul, when using the words "Thy Will be done," is to bring itself closer and closer into perfect harmony with the Deity, when that is accomplished we may understand, from our simile, that not only will we and our aspirations be influenced by the Will of the Deity, but that then our wishes, in their turn, must have great power with God, and it becomes possible for even "Mountains to be removed and cast into the midst of the sea."

How truly the Philosopher Paul, at the beginning of our Era,



recognized that the knowledge of God, which Christ Himself tells us is Everlasting Life, may be gained by the study of the material creation; his words were sadly overlooked by many who, half a century ago, were afraid that the discoveries of Science were dangerous to belief in the Deity; he says the unrighteous shall be without excuse *because* "The invisible things of Him since the creation of the world are clearly seen, being perceived through the things that are made, even His everlasting power and divinity" (Romans i, 18 to 20, R.V.).

We have seen to-night the truth of this wonderful statement, we have traced the reflection of the greatest attribute of the Deity, Divine Love, on the material plane; what has been the result of our investigation? We find that throughout the whole of Nature the one great universal power is Sympathy.

'Tis verily "Love that makes the world go round." What a marvellous conclusion to our investigation, let us see where it leads us: The whole of creation is the materialization of the Thoughts of the Deity, we have, therefore, in the forces of Nature, the impress of the very Essence of God. Our Innermost Self is an emanation from Him, and Prayer which, at the beginning, is only a striving to bring ourselves into harmony with the Deity, must, as the Soul grows in strength and knowledge, become a great power working under the wonderful principle of Sympathy. True prayer, indeed, becomes *love in action* and, under certain conditions, Prayer may actually be looked upon as the greatest physical force in Nature. But let us carry this one step further: can we by our analogy of Matter praying understand why "The knowledge of God is Everlasting Life?" Look at the first iron bar and watch how, as long as it keeps on vibrating, the second bar, because it is in sympathy, will be kept in motion; if it were possible for the first bar to vibrate for ever, the second bar would, speaking materially, have everlasting life, through its being in perfect sympathy with the first bar, without this connection the bar would be lifeless. Now apply this to our Transcendental Personality: it is being nourished—the knowledge of God is increasing—it is at last pulsating in perfect harmony with the Deity, and when, for it, the Material Universe disappears, its affinity to Infinite Love must give it Everlasting Life. Everything that has not that connection is but a shadow which will cease to be manifest when the Great Thought is completed, the volition of the Deity is withdrawn and the Physical Universe ceases to exist; nothing can then exist except that which is perfected, that which is of the essence of God, namely, the Spiritual. Perfect harmony will then reign supreme, such

happiness as cannot be described in earthly language, nor even imagined by our corporeal senses; hence, in the many passages referring to that wondrous Life hereafter, we are not told what Heaven is like but only what is not to be found there :

“ Eye hath not seen nor ear heard,  
Neither have entered into the heart of man  
The things that God hath prepared for them that love Hím.”  
(1 Cor. ii, 9.)

#### DISCUSSION.

The SECRETARY read the following communication from the Rev. Canon GIRDLESTONE:—

In reading Mr. Klein's remarkable paper I have been reminded again and again of the writings of Philo, the Alexandrine Jew, Paul's contemporary. Thus, Philo says, “ The world was not created in time, but time has its existence in consequence of the world; it is the motion of the heaven that has displayed the nature of time.” Again, “ what has been made by the author of all things has no limitation; and in this way the idea is excluded that the universe was created in six days.” God is regarded by him as “ the mind or soul of the universe ” and to be contemplated by the soul alone without utterance of any voice. He also held that every one of us has two persons, the animal and the man, the life-faculty and the reason faculty.

Mr. Klein holds with Kant that time and space are human forms of thought, or, as Carlyle calls them, the warp and woof of existence: still, they stand for something, and they help to give us an idea of the eternal and infinite spring of existence. I wonder that Mr. Klein did not point to the Incarnation as supplying the key to the problem, *e.g.*, in pp. 139–142.

On p. 131 he says that certain negatives (*e.g.*, evil) have no real existence. They are shadows. We are familiar with this view in the writings of Christian Science, but does it stand the test of Scripture or of experience? Victory over evil is a very real thing. A good deal depends on the definition of the word “ real.” I am sorry that we have not this useful word in the English Bible, though we have what answers to it in the original.

P. 132, middle, “ only an image of our retina.” Surely the image is

caused by something, as Mill pointed out when discussing sensation. Mr. Klein has hardly called sufficient attention to muscular action in connection with form and distance. Perception, to which he refers, p. 133, is a bad master, but a very useful servant. We must not disparage the use of our senses, especially when their evidence converges.

P. 134, "man became a living Soul." Mr. Klein here departs from Paul's interpretation in 1 Cor. xv. We have to discern between Soul and Spirit. I wish I could be as optimistic as Mr. Klein is on that page. A day spent in the dens and alleys of London (say with a City Missionary) shows that Progress is very slow and there are many adversaries. I think a little qualification is needed on p. 137, with respect to the omnipresence and omniscience of our real personality. By cutting off patches of brain, Mr. Klein tells us, patches of the ego are destroyed. Certainly the brain is the condition of our physical life but not the cause of it. It is the nursery of the soul and of character, and free-will, which is reduced to a minimum on p. 146, is vital for the formation of character and so of destiny.

Let me close by saying what a pleasure it is to read such a meditative paper as this, even though at times one is inclined to question certain expressions. I wish the last line had been added to the closing text: "But God hath revealed them unto us by his Spirit." (1. Cor. ii, 10.)

The SECRETARY read the following extract from a letter he had received from an Associate who was unable to attend:—

"I cannot tell you how much I have enjoyed Mr. Klein's paper. He seemed to be clothing in words for me, thoughts of mine that had never 'broken through language and escaped'; or to use his own illustration, I found myself (the receiver) vibrating in perfect sympathy with him (the transmitter) nearly all through. The first thing that struck me as a probable point for discussion is his table of negatives on p. 131. Negative is not the same as opposite, is it? I mean is evil the negative of good, isn't it something much more active than not-good? Further on he talks of 'progression and stagnation' not retrogression. This point of view interests me because it is Browning's solution of the problem of evil. Compare the end part of the paragraph on p. 135, beginning 'If man became a conscious being' with:

“‘There shall never be one lost good! What was, shall live  
as before;  
The evil is null, is nought, is silence implying sound;  
What was good shall be good, with, for evil, so much good more;  
On the earth the broken arcs; in the heaven a perfect round.’

“Then the stages of growth on pp. 136 and 137 are so beautiful and true:

“‘There is no good of life but love—but love!  
What else looks good, is some shade flung from love;  
Love gilds it, gives it worth.’

So let us say—not ‘Since we know, we love,’  
But rather, ‘Since we love, we know enough.’

“And in the passage on p. 139, beginning ‘I will try to give my own experience,’ he does indeed ‘wake an echo.’ He writes my own experience word for word, when he describes that yearning which is almost pain in its intensity, which is one of the most vivid impressions of childhood:

“‘My God, my God, let me for once look on Thee  
As though nought else existed, we alone!  
And as creation crumbles, my soul’s spark  
Expands till I can say,—Even from myself  
I need Thee and I feel Thee and I love Thee,’

“And on p. 142, ‘A wondrous feeling of perfect peace.’

“Thank God that wakes an echo too, and, as he says, is past describing. Two other points I hope will be discussed. One is, when he talks as on p. 139 of our Spiritual Personalities, does he mean that any kind of body is transient only and must disappear with Time and Space, surely our Spiritual bodies will be something more than Spirit? The second point is, is he justified in arguing by analogy that the perfect sympathy between two material iron bars gives us the key to the perfect sympathy between ourselves and the Divine? But perhaps he doesn’t argue this and has got quite out of my reach here?

“I like the way the idea of God’s Immanence seems to underlie the whole paper, and especially the expression ‘bombarding our sense organs.’”

The Rev. Dr. IRVING, D.Sc., B.A., thought that Mr. Sydney Klein’s paper was one which many members of the Victoria

Institute would appreciate, even among those who could not follow him to the full extent in the mysticism which pervades the paper. The phrase "The Transcendental Ego" brought into strong relief the dual nature of the universe of Being—the material and the spiritual—the visible universe and the "invisible universe," in both of which Man, and man only (of created beings known to us on this planet) had a share. The author's powerful way of presenting the "spiritual" as penetrating the "material" and as "taking root" in the physical Ego, would be welcome to students of those deep questions, which make themselves heard in that philosophical zone of thought which forms the borderland of Religion and Science. Such questions would continue to present themselves for a long time yet to those minds, which were not so constituted that they could find a resting-place either in materialism, on the one hand, or in extreme mysticism, on the other. One who (like himself) had found it impossible on Scientific grounds to recognize an "evolution" of the moral and spiritual nature of Man out of the physical, would find much to appreciate and even admire in the paper; and he emphatically welcomed the author's suggestion (p. 146) that Religion and Science must go hand in hand in elucidating the Riddle of the Universe.

That striking phrase again (p. 142) which speaks of a "state of self-forgetting (as) the silencing or quieting down of the Physical Ego," seemed to have its counterpart in the dictum of the great Apostle of the Gentiles, when (II Cor. iv, 18) he speaks of the progressive growth to maturity of the spiritual man as consequent upon the soul turning its gaze more and more from "things seen (*τα βλεπόμενα*)," and fixing its gaze more and more upon "the things unseen (*τα μη βλεπόμενα*) and eternal." In that region things were seen by the "Inner Light" (as Dr. Arnold Wateley would say), they were realized in the sphere of the God-consciousness of the Soul. And there was a corresponding auditory soul-sense (if the term might be allowed) to which reference was made by the Prophet Isaiah (Ch. 1) when he made Jehovah's "Righteous Servant" to say—"The Lord God hath opened mine ear, and I was not rebellious neither turned away backwards" (from the call of the Spirit).

Yet, if truth is to be advanced by Religion and Science going hand in hand, we must allow as *actualities* the fundamental concepts of time and space, without which the phenomena, with which

Science has to do, can have no meaning for us. Our concept of "time" arose necessarily out of our perception of succession of "states of consciousness," which (as Bergson helps us to see) might not be independent units, but the crests of the waves that mark a continuous flow of the *durée*, rather than a mere line marking the "loci" of a point in motion. And as to our concept of "Space," the speaker thought that the author might, with some advantage, have taken into consideration the action of the muscular sense, as the subject was ably treated in the writings of the late Professor Alexander Bain (see his work, *The Senses and the Intellect*). For his part the speaker thought that the author was quite wrong, in referring our perception of the weight of an object (p. 132) to the sense of touch; it was evidently arrived at through the muscular sense. In speaking of the sensory impression of (*e.g.*) a landscape as having no existence for the individual subject except as an image on the retina of the eye, and of sounds having no existence except on the tympanum of the ear (p. 141), the author seemed to have overlooked the function of *perceptivity* seated in the corresponding cerebral ganglia; as also the fact that there was a storage of such impressions perhaps in the region of "unconscious cerebration" (possibly through a process which Lloyd-Morgan had called "metakinesis"), to make memory possible.

The speaker thought that since the appearance of Bergson's *Creative Evolution*, which recognizes "directivity" as a factor of Evolution, it was rather late in the day to fall back upon the crude Darwinism dogma of evolution by mere "natural selection" or upon what Bergson calls the "false evolutionism" of Herbert Spencer. The author of the paper seemed to fail to see (1) that a new departure had been taken in the theory of Evolution; (2) that what concerns the "Transcendental Ego" transcends altogether what belongs to the "Physical Ego"; and (3) that these lower states of consciousness fall properly within the province of Evolution, as generally understood, while those of the former category lie outside its range.

Professor LANGHORNE ORCHARD thought that their thanks were due to the author for an able paper upon a topic of absorbing interest and for his suggestive experiments with sympathetic bars.

Upon some points, however, he was unable to agree with the author's affirmations. This non-agreement began with the very first sentence. To say that the knowledge, given by the funda

mental intuitions of Time and Space is "illusory," is to question the validity of our primary intuitions. But, since all reasoning rests ultimately upon premises given by intuition and consciousness, to deny their validity is to deny that we have any standard of truth, and to leave us nothing but Pyrrhonism—it is intellectual suicide. It is also (as was pointed out by Sir William Hamilton) to cast a slur upon the character of God, by representing our Creator as a deceiver. We can by no means accept the view that the notion of succession is an illusion of our unfortunate minds, that Paul was haling Christians to prison at the very same instant he was praying with the Ephesian elders. Nor is it to be supposed that the Divine Mind is without any notion of succession, that the Creator had no design, no plan, no purpose, in giving existence to a universe, and in history and providence no adaptation of means to ends. No doubt, God "does not require time to think as we do," but it does not follow, as the author seems to think it does follow, that "the forming of this World and its destruction, the appearance of Man, the birth and death of each one of us, are absolutely at the same instant . . ." The statements of Scripture are in apparent contradiction to this strange hypothesis. The sacred Name Jehovah (*Yahveh*), by which God was pleased to reveal Himself, signifies Existence—past, present, future, and these three aspects, which thus meet us in the first Bible book, meet us again in the salutation of the last book. The facts that God created vessels of mercy unto glory and prepared them for it, that He has intervened in the affairs of men and sent His Son, the Saviour of the World, appear irreconcilable with the theory that the notion of succession of sequence and order is foreign to the Divine Mind. Though successive events be seen, by That Mind, in one view, they are surely seen as successive, and their order is seen also.

The statement (p. 130) that a human being has two "personalities" would imply that he has two wills. It is somewhat startling to read (p. 137) that my real personality is omnipresent and omniscient! May I suggest the term "nature," instead of "personality," as better expressing the author's true meaning? The idea (p. 131) that evil and falsehood are merely the absences of goodness and truth is untenable. These things are not opposites only, they are contraries. On p. 132 occurs the curious phrase—"evolution of thought," which might be taken to imply the absurdity that the conscious is a product

of the unconscious. From sundry evolutionary imaginations on p. 134 (assertions without proof), those investigators who hold the hypothesis of Evolution to be unscientific and false will emphatically dissent. The author seems here to fall into a self-contradiction, since the Physical Ego appears pre-existent to that Transcendental Ego of which we are told repeatedly it is "the shadow." It is difficult to understand how a "shadow" can be pre-existent to the thing of which it is the shadow (p. 134).

Notwithstanding these blemishes, the paper is marked by much that is true and beautiful and of practical value. The idea of the Spiritual as the Eternal, the idea of Love as the Summum Bonum, the idea of God as Infinite Love ever seeking to reveal Himself to us in order that, through sympathy resulting from knowledge, we may come to resemble Him and have Everlasting Life, the idea of successful Prayer as that which is in will-sympathy with Him—these are living thoughts for which all readers of this paper may unite in warmly thanking the gifted author.

The CHAIRMAN said: This is a very important and interesting paper. It is well to learn to realize the limitations of our nature and, if it may be, to see to go beyond them.

It is no new problem, it has been well said—

"I gaze aloof at the tess and roof  
Of which time and space are the warp and the woof,  
A tapestried tent to shade us meant  
From the brave everlasting Firmament."

But how far is it possible, and still more how far can we find words to express it.

I think it is Dean Inge who has warned us that most of our words which we use to express deep thought are drawn from imperfect analogies.

Now take the word "real," as modern as it is common, borrowed from Roman Law by the Schoolman: it is used to express anything from the material to the Platonic ideal, according to the conception of the speaker of what "res" is.

Again Kant seems to mean by "objective" exactly what the Schoolman meant by "subjective," and there is the grave danger of such words being taken in a widely different sense from what is intended.

Evil is the negation of good, to a mathematician minus is as much



a verity as plus, but to loose thinkers a mere negation is nothing and does not matter, and it is a grave matter to think that evil does not matter. The negation of good has very practical results.

#### AUTHOR'S REPLY.

In preparing this paper I was fully aware that the subject was not an easy one to deal with, it was not one that could be approached with a light heart, but it was for me a labour of love, and I had therefore no fear that an earnest attempt to elucidate such a subject, one perhaps more suitable for meditation than for discussion, would not be appreciated, and I have not been disappointed. From numerous communications I have since received from Clergymen, Laymen, Scientists and Writers of note on Transcendental subjects, it is clear that I was fully justified in thinking that the subject would have an intense interest for many and widely diverse classes of thinking people. It remains now for me only to reply to those particular communications which have been printed, and, at the outset, I can candidly say that no remarks therein have given me the slightest inducement to alter a single sentence of my paper.

I am not familiar with the writings of Christian Science, but if they have recognized, as Canon Girdlestone seems to state, that the Invisible and not the Visible is the real, they have got hold of one piece of Knowledge, at all events, which it would be well for some others to acquire. I think it a pity, in dealing with these subjects, that the truth of any argument should be stated to depend upon whether it "stands the test of Scripture." An example of the unfortunate result of insisting on such a test is seen when a little later on Canon Girdlestone makes the definite statement that the Brain is "the nursery of the Soul and of character." Now the brain is never mentioned in Scripture, neither in the Old nor New Testament; thoughts and emotions are attributed to quite different organs of the body, namely the reins or kidneys, the heart, the loins and even the bowels.

I am sorry I cannot also agree with his statement that the brain is the condition of Physical life; I certainly never suggested, as he seems to think, that the brain was the cause of life; he is evidently confounding Physical life with the Physical Ego. The very existence of our *Physical Ego*, namely, the manifestation of the *Transcendental*

*Ego* in our consciousness, depends, as I have shown, upon the existence of the brain, which is the organ of the mind ; when this is removed the manifestation disappears, but physical *life*, which we have in common with all plants and animals, does not require a brain at all ; this is clearly seen in the lower forms of life ; it would be difficult to point out the brain of a cabbage or an oaktree. If he will refer to p. 146, he will see that he is again confounding the Physical *Ego*, the Soul-man, with the transcendental, I speak there only of the Transcendental having no Free will, but on p. 135 I emphasize that *man*, the living Soul, if you like, has freedom of will to choose between the Spiritual and Physical influences.

I indeed appreciate the kindly words with which Canon Girdlestone closes his remarks ; he will, I think, on further consideration recognize my reason for eliminating as far as possible all dogmas, especially one of so controversial a character as the Virgin birth, and, with regard to the line "But God hath revealed them unto us by His Spirit," although this is in consonance with the very basis of my argument it opens up the question of direct Revelation which I have studiously avoided in my paper.

Need I say how deeply I appreciate the second printed communication as evidence of a true lover of the Divine, and one who is travelling the same path which we must all follow in the "Quest for the Grail" ; I have had many other similar communications, and in almost the same words ; it is very gratifying to know that so many others have had the same wonderful experience and have thus realized their kinship with the Reality ; would that others may also be led to meditate upon what after all is "the pearl of great price," for which those, who have once possessed it, know they would, if they had it not, give everything in this world to acquire.

The question of having a body after death must, I am afraid, be relegated to that much used but misleading region of thought called Anthropomorphism ; how can a Spirit, which is independent of space limitation and therefore Omnipresent, be imagined to have a body ? does anybody still imagine that, when the physical film is pricked for us, we shall have legs and arms and wings and have to see and hear by means of sense organs ? With the elimination of Time and Space, all matter ceases to exist, for we know, by late discoveries in Radio-activity, that every atom of which the human body is composed, and every atom of the phenomenal Universe, is nothing else

but *motion*, and that is but the product of these two limitations or modes under which our Senses act, the very basis of motion being the time that an object takes to go over a certain space. Now with regard to the second question concerning my physical experiments, if my contention is true that the whole of the phenomena of Nature must be looked upon as the manifestation of the Divine Noumenon, it follows that Matter is as Divine as the Spiritual but not as real, it is His shadow, or the outline of His very image, thrown on the material plane of our Sensations, and the principle of sympathetic action, upon which the whole power to influence depends throughout the Universe, becomes surely the best symbol we can use for understanding the efficacy of Prayer and the connection between our Transcendental Self and the All-loving. Realize that the Transcendental Ego is a Spirit and therefore akin to the Great Spirit not only in essence but in "loving and knowing communion," then look at my last experiment where we saw two material bodies (remember they are shadow manifestations of the Reality) which could influence each other from the fact that they were akin not only in substance, but in perfect sympathetic communion. If now we are watching the shadows of two human beings thrown upon a wall and see those shadows shaking hands and embracing each other, are we not justified in concluding that those images give us a true explanation of what is really taking place? and is that not exactly what I have done; have I not shown, as I proposed to do on p. 146, that it is possible by examining the phenomena of Nature (the shadows of the Reality) to reach that point where we may even feel that we are listening to, or having divulged to our consciousness, though through a glass darkly, some of what may be called the very thoughts of the Great Reality? There are several other phenomena which I might have examined, but I chose this particular aspect of the Reality as best illustrating the subject of my paper, though it was probably the most difficult one to bring home to so critical an audience as we have at these meetings.

The next two speakers must evidently be classed with those to whom the very word "evolution" is still as a red rag to a bull, and I can only recommend them to study the subject more perfectly and especially the latest light thrown upon it by discoveries in Embryology: How the Rev. Dr. Irving can have got the impression, as he appears to have done, that I do not recognize "directivity" as a

factor in Evolution, is past my comprehension ; the very root of the contention of my whole paper is that God does not only direct, but is Himself the actual working Agent of every process in Nature, for all the various phenomena of "progress towards perfection" are but the glimpses we get of the working of His Will.

The opening paragraph of my paper, where I stated that "Time and Space are only modes or conditions under which our Senses act, and by which we get a very limited and illusory knowledge of our surroundings," has evidently quite upset Professor Orchard, as he says such a thought is "intellectual suicide"! I can only refer him again to my former paper to this Institution dealing with that subject, but he goes further and makes the extraordinary statement that it is also to cast a slur upon the character of God by representing our Creator as a deceiver! It is difficult to treat such statements seriously. Apart from the question as to how God can possibly be said to have a "character," every thinking person knows that our Senses are apt to, and do, woefully deceive us, that perception without sufficient knowledge leads us into false concepts, which in their turn get us into difficulties, both in the Physical and Meta-physical, and this fact is the greatest incentive we have to earnestly seek for and gain further knowledge to correct those erroneous conclusions. Was it a slur on God's character that for hundreds of thousands of years man was deceived by his sense of sight into believing that this little earth was the centre of everything, that it was fixed in Space and that the Sun and Stars and the Universe revolved around it? or, when Galileo proved that this perception was erroneous, was it a slur on God's character that his Human Agents in this World declared, and maintained for hundreds of years after, that it was a sacrilegious invention and threatened with death any one who should dare to believe what they, in their blind dogmatism, declared was contrary to the teaching of Scripture! God may perhaps be looked upon as having given us our present imperfect senses, and as having helped us, under His plan for natural progression, to improve and largely extend their powers, during the last 300 years, by the invention of various instruments; but by no stretch of the imagination can He be held responsible for the way in which we use those Senses; their present imperfections as truth finders are, as I have pointed out, one of our greatest incentives to gain further knowledge. Professor Orchard trots out again, as he did in the discussion on my

last paper, the extraordinary suggestion that because God has revealed himself in the name Jehovah, which means existence (derivation not certain but *perhaps*) and comprises the three aspects, Past, Present and Future (which it certainly does not), therefore there must be a Past, Present, and Future to God ; it might just as well be argued that, because the Deity has revealed Himself to us in the name G O D, which word comprises three letters, one of which is at the beginning, another in the middle and a third at the end, therefore the Deity must have had a beginning, has now a middle, and will come to an end. He is startled at hearing for the first time that his Transcendental Ego is Omniscient, but his reference to "Evolutionary imaginations" shows so clearly the state of his knowledge upon that subject, that I venture to remind him that he himself, or rather the clothing which is now being used by his Physical Ego, has, during his present life, gone through all the different stages of evolutionary development, which, since the beginning of life on this planet, have been employed to build up his body in its present state. Embryology has shown us that, during Gestation, each human embryo is a replica of the past ; it passes through the different stages from protoplasm to man, being unrecognizable at certain stages from a monad, an amœba, a fish with gills, a lizard, and a monkey with a tail and dense clothing of hair over the whole body. The human embryo has also, at an early stage, the thirteenth pair of ribs, which is found in lower animals and is still seen in a very rudimentary form in Anthropoid Apes, but which disappears from the human embryo before birth. Professor Orchard is of course quite wrong in saying I have stated that the Physical Ego came before the Transcendental Ego ; I have done nothing of the sort. The Spiritual, being independent of time, has always existed but, before its advent to man, the genus homo was, as I specially pointed out, an animal pure and simple ; it was the advent of the Spiritual, or its taking root in that animal's mind, which gave it, or made manifest in it, a physical Ego and raised man far above all other animals. I have now dealt with what Professor Orchard calls "blemishes" in my paper but which, I submit, are nothing but the result of his own imaginary creation.

It is a pleasure to turn to the remarks of the Chairman, he recognizes how difficult and in many cases impossible it is, in treating Metaphysical subjects, to find words to express the exact meaning ;

we have to describe the Infinite in terms of the finite and, by use of imperfect, finite analogies and symbols, to get a glimpse of the otherwise unthinkable, and even then it requires a Mystical Sense, or what St. Paul called Spiritual discernment, to get beyond the physical. I note that he appreciates that Evil is the negation of Good and, in my argument, I have never denied that these negations have the appearance of realities, under our present conditions of existence, and indeed have to be dealt with by us as realities, but they are only manifested as phenomena on the physical plane, through our senses, and therefore thoughts, being limited by Time and Space and therefore dependent upon relativity. It is easy to see that the negatives, Cold, Shadow, Ignorance, are manifestations of the absence of their positives on my list, and it is not difficult also to show that Sin is actually dependent upon the Good, as the shadow depends upon light for its appearance of reality. Moral laws, and responsibility thereto, are dependent upon the existence of Goodness; the purely animal Homo was free from sin or responsibility until the advent of the Spiritual, when he became aware of Right, and therefore of Wrong, and became a responsible moral being; certain acts then became for him Sin that were not sin before; thus the advent of Christ, and in a less degree the coming of every good man into the world, so raised and is raising the level of moral rectitude, that things become sin that were not sin before; St. Paul himself specially recognizes this when he says that without law there is no sin. The Goodness brought into the World by Christ did not create sin but made it manifest and gave it the appearance of a reality under our present conditions of life and thought.

How well the Mystic St. Paul recognizes that the Invisible is the real and that the visible, namely the phenomena of nature, is only dependent upon time for its manifestation, his words are :—

“For the things which are seen are temporal but the things which are not seen are Eternal.”

## 528TH ORDINARY GENERAL MEETING.

MONDAY, MARCH 4TH, 1912.

THE VENERABLE ARCHDEACON SINCLAIR, D.D., IN THE CHAIR.

The Minutes of the previous Meeting were read and signed, and the SECRETARY announced the elections of Mr. Sidney Collett, formerly an Associate, as a Member, C. H. F. Major, Esq., a life Associate, and T. A. Stewart, Esq., as Associate, and the Rev. Professor Hechler as a Missionary Associate.

The CHAIRMAN, in introducing the Bishop of Down, Connor and Dromore, said that it gave him great pleasure to do so, and that they all felt it a privilege to hear a paper from one who had taken high honours at Trinity College, Dublin, and whose career had justified his earlier successes. As examining chaplain to a former Bishop of what was now his own diocese, as chaplain to the Lord Lieutenant, as Donnellan Lecturer, as Bishop of Clogher, and then of Ossory, he had furthered the cause of Truth and laid a burden of indebtedness upon all who had studied his works.

He then called upon him to read his paper.

---

### *DIFFICULTIES OF BELIEF.*

By the RIGHT REV. THE BISHOP OF DOWN, D.D.

**T**HE difficulties of belief, which have so powerful an effect on modern minds, may be said to be due in the main to three causes :—

First, the influence of modern science ; secondly, the tendency of modern criticism ; and thirdly, the character of the modern ethos.

All these are related ; for modern criticism is very largely the application of scientific methods to history and to historical documents, and the modern ethos has taken shape under conditions which owe their nature in a great degree to the transformation of the material environment of human life by the application of the discoveries of physical science.

We shall consider our subject in the three departments which have just been outlined.

(1) Every really thoughtful Christian believer in our day has, in some way or other, found means of adjusting his scientific creed so as to avoid conflict with his theology. There are people who find no difficulty in such an adjustment, because they think in water-tight compartments. They never dream of applying in the sphere of their religion the categories which dominate their science. There are some very powerful minds

which have this peculiarity. It makes life and faith easy for them. And, as we shall see, there are schools of thinkers in our time whose whole philosophy consists in an effort to prove that thinking in water-tight compartments is true and right thinking.

But the majority of thinking people are not thus constituted. Even when they accept scientific principles and methods on the one hand, and religion with its principles and methods on the other, they are constantly disturbed by the uncomfortable suspicion that somehow or other their whole life needs a reconciliation which they ought to effect but have no means of effecting, or, if their faith is of a very intense kind, they have a deep underlying conviction that there exists some reconciliation which lies beyond the grasp of their thought.

Let us consider briefly how this difficulty arises. It is due surely in the first instance to the fact that science goes upon the principle of physical causation. It regards the universe as a connected system of related things and events pervaded by necessity. Natural law governs the whole. According to this scheme of thought, the condition of the world at any moment is the necessary outcome of what it was at the previous moment: the universe is a vast mechanism in which every element is determined by relation to all the others. In the eighteenth century this idea was confirmed by the discovery and description of the mechanism of the heavens. In the nineteenth century its scope was extended by the great doctrine of evolution. True, this latter seemed to leave mere mechanism behind. It added to the idea of mechanism the higher idea of organic growth. But it did not get rid of the idea of an order dominated by necessity. Rather it seemed, in its earlier statements, at all events, to link biology to mechanism, and to show that elements which, for earlier thinkers, seemed to break free from the control of merely natural law are really in complete bondage. Thus arose that naturalistic monism of which Haeckel may be regarded as the most characteristic exponent.

Science certainly goes upon the supposition that the unexplained may always be explained on these principles, if we can only get deep enough. It does not, in practice, admit exceptions. Its aim is ever to banish the mysterious and unaccountable. If told that life, for example, is a new beginning which cannot be brought into one system with matter and motion, and explained in terms of mechanism and chemistry, it answers "Wait and See." If confuted by the facts of consciousness and will it urges the danger of hasty assertion in view of the steady



advance of scientific explanation throughout the domain of nature. Here is the strong foundation of materialistic and agnostic naturalism. And thinking people who feel the tremendous force of the contention may be pardoned their fears and their hesitations, and their doubt of mere dogmatic statements on the other side.

It is further to be observed that these ideas which, a generation ago, were current among the educated, and especially the scientifically educated, classes, have now become the property of the masses. Education of a sort is now widely diffused. The principles of science, in a rudimentary fashion, have penetrated almost all minds. The thoughts of the few in one generation are those of the many in the next. To Sir Oliver Lodge, Haeckel's *Riddle of the Universe* seems a survival from the past. To the multitude it seems the newest light of science. The reason is clear. The multitude has only just grasped the ideas which give that work its plausibility. To Sir Oliver Lodge those ideas are old and familiar and he has discovered their limitations.

On the whole I think it is true that here we have the difficulty which most of all affects the minds of the more thoughtful people who doubt or deny at the present time. Here is the basis of most forms of definite unbelief. What are we to say as to the outlook for the future?

First, we must note the emergence of a philosophy which cuts the Gordian knot. Pragmatism does not deny the validity of science. On the contrary it maintains that validity, but bases it altogether upon its practical value. Its contention is that we believe science to be true because we find it useful. To extend the methods of science into realms where they are not useful is mere confusion. In those realms we must seek for the principles which are useful, and we shall find them true also—true in their own sphere. I regard this philosophy as a remarkable sign of the times. It is the revolt of the spirit of man against the dominance of mechanism. As such it is of supreme importance. I do not believe in pragmatism as a final philosophy. But it is surely a fresh proof, and one characteristic of our age, that man's spiritual nature can never finally submit to the bondage of the material. Naturalism (or monism) is only another name for materialism. And against all such forms of thought there is a witness which cannot be suppressed in the soul of every man.

At the present moment this witness is giving its testimony in many forms. Some of these are strange, even bizarre. From

the new psychology and psychical research to spiritual healing and Christian Science, from profound philosophical speculations to the most frantic forms of spiritualism, we can trace the movement of the human spirit in its revolt against mechanism. There is indeed in our time a wonderful re-discovery of the soul. A quarter of a century ago a clever materialistic writer wrote an article in one of the great monthlies which he called "The death of the soul." His point was that no serious thinker any longer believed in the soul as something higher than, and different from, the mechanism of the brain. It was a foolish thesis even then; but it had a certain degree of plausibility. It would now be impossible. During the last quarter of a century the spiritual side of our experience has been asserting its reality in a very wonderful way.

The thinker whose work is attracting most attention at the present time is Henri Bergson. A profound physiologist, as well as a profound psychologist, he is presenting to the world a new conception of life in its relation to the universe. And the most striking and important fact in this new doctrine is that it approaches the problem of life not from the side of mechanism but from the side of psychical and conscious experience. And this mode of approach has the effect of yielding a new justification of the freedom of the will and a view of the world in which is found ample room for the spiritual. Though I would deprecate any slavish adherence to Bergson's philosophy as a whole, I must welcome him as a pioneer who is opening out a new road into the realms of thought and revealing new visions of spiritual reality.

Side by side with Bergson's work must be placed the new realization, which is coming to many scientific minds, that the categories of mechanism are insufficient for the explanation of the immense variety of nature. As a most remarkable illustration, I would mention two articles in recent numbers of the *Hibbert Journal* with the suggestive title, *Is there one Science of Nature?*

The result of our enquiry into this first great difficulty in the way of belief is distinctly reassuring. We have reason to think that the bondage to the mechanical view of the world will not long hold the mind of man.

Before leaving this part of our subject let me point out that we have been in the habit of taking too narrow a view of the nature of science, and that this fact is to a very great degree the cause of our trouble. In considering science in relation to religion we have thought too much of only one branch of it, the theoretical.

We think of science as the discovery of the laws of nature. The result is that we have formed a conception of nature as a system completely under the domination of a rigid cast-iron rule, a system which seems unalterable by human power, a vast machine in which man himself is but an element. We have forgotten the most important part of science, the practical part. We have omitted to consider that the great purpose in the discovery of the laws of nature is that we may control the forces of nature for our own ends. And when we turn our attention to this side of science we find to our astonishment that we are able thus to control natural forces. Natural forces are not the inexorable things we imagine. Thus all human work is done. By his knowledge of the laws of nature and his using of that knowledge for his own purposes, man has been able to subdue the earth, to alter the whole aspect of the globe. Instead of making us the slaves of natural forces, the laws of nature are the means by which these forces are mastered by the free mind and will of man. Thus science itself yields us, when it is rightly regarded, a magnificent demonstration of the reality and essential independence of the spiritual. Thus also is proved the absurdity of imagining that the discovery of natural law implies the banishing of the Creator from the universe. For, if it is through his knowledge of natural law that man is able to control the forces of nature, how much more must it be true that these laws, and the forces which they rule, subserve the purposes of supreme Intelligence. Thus it would appear that the universality of law in the domain of nature is no argument against the efficacy of prayer and the occurrence of miracle. We cannot imagine that the Almighty is subject to a disability from which his creature man is free—that His freedom of action is bound by laws which do not bind the freedom of finite man.

(2) Secondly, we have to consider the difficulties of belief which arise from the tendencies of modern criticism. The higher criticism, as it is termed, of the Old and New Testaments is no new thing. But within the past twenty years its methods, and many of the views to which they have led, have attracted public attention and affected the popular imagination in a new way. As we all know, higher critics are of many kinds and degrees. Some are very distinctly and definitely negative and destructive in relation to the Christian religion. Others represent what may still be termed the broad school of religious thought. Some, it must not be forgotten, are in the strictest sense orthodox and conservative. It is well that we should remind ourselves that the higher criticism is really a method, not a school. That

method is the application of strictly scientific historical criticism to the sacred documents. I do not mean that as carried out this method has been always scientific. Far from it. It has often been marked by the unbridled use of hypothesis. Yet it is true that the intention of the higher critic is to be strictly scientific in his treatment of the documents. That is what he professes.

Now, looking at the world in a large way and at men in the mass, we must realize that the mere application of such a method to Holy Scripture marks a very great change and must produce a strong effect on the popular mind. In the days that our religious traditions come from, Holy Scripture was regarded as too sacred for criticism. It demanded interpretation, and there indeed the scholarly mind might find ample scope for study and investigation. But to question the sacred documents themselves; to treat them as, in many instances, probably composite; to apply to them the tests which would be applied to other documents, seemed altogether profane.

This being so, it was inevitable that, when it became clear to the public mind that scholarship was testing Holy Scripture in the very same way in which it tests all other documents, that very fact had an extraordinary influence. And when, further, the views and theories of some of the more extreme critics gained currency, it appeared to multitudes of people that the very foundations of the Christian Faith were being shaken. The impression was created, and still persists, that the unusual events recorded in Holy Scripture are being shown to have no better foundation than the prodigies recorded in ancient legends, and that the documents which are thus fallible, have little claim on the reverence of mankind. The popular mind is very vague. It does not grasp the exact result of any new development of scientific thought; it receives an impression, and from that impression it derives its conviction, or want of conviction. So it is, I fear, in this case.

Now the truth is that at present the tendency of criticism is rather to restore than to destroy. Even as regards the Old Testament, there are indications that the extraordinary way in which the discoveries of the spade are driving back the dates assigned to ancient civilization is raising a suspicion that the current theories will very soon require revision. And, in relation to the New Testament, we can now say that there has taken place an amazing restitution. The wild theories which endeavoured to bring down the dates of the New Testament books into the second century have practically vanished. It is

now acknowledged, as regards the majority of these books, that they belong to the age, and in most cases were written by the authors, to which tradition assigned them. All this is true. Yet the fact remains that the impression prevails that these books tell their story with the uncertainties and inaccuracies which belong to old chronicles and folk-lore, and that, however elevated may be their tone spiritually and morally, their historical value is at the best doubtful.

Here is one of the most serious difficulties in the way of belief at the present time. How can we deal with it? First, of course, Christian scholarship must do its duty; and we can say with thankfulness that it is doing its duty. But, in the realm of pure scholarship, I fear it is true that negative results affect the public mind more definitely than positive. We certainly require more than scholarship. The continual fluctuation of opinion—of theory and of conjecture—in the realm of scholarly criticism makes us feel the necessity of something more permanent. Where is that permanent basis of truth to be found? The answer surely must be that we must find it, not in the mere book, but in the revelation which the book contains. It is surely true that all along the ages the source of power has been, not the mere letter of certain documents, but the personality and influence of Jesus Christ. Here is a great theme and one which has been much in the minds of thoughtful Christian people in recent years. It was inevitable that it should be so. The discordant voices of the critics and the unsettlement of the Christian mind on the subject of Inspiration drove the faithful back upon the great central truth. And here the unprejudiced mind finds a basis which cannot be shaken. The wonderful character of our Lord, with its simplicity and its profundity, with its amazing completeness, its union of the most opposite qualities, its freedom from all consciousness of sin, its realization of humanity in relation to God and in harmony with His will, its compelling moral force, its undying power of inspiration, its penetrating quality, its clearness of outline—it is this which makes Jesus Christ the most vivid personality in history or literature. Together with His wonderful character must be considered the teaching of Christ, His consciousness of union with God, His superhuman claims, the extraordinary way in which these claims have called forth a response in the hearts of men in all ages. He speaks to men as their Lord and Master and they acknowledge His supremacy and find in that acknowledgment new life. Through all generations of Christian history this is the source of all that is

truest and best ; and, in periods of spiritual decay, here is found power for regeneration. In our own time, the principle expressed in the words "Back to Christ" has proved the salvation of religion.

It is surely clear that the literature which presents us with such a fact as the fact of Christ must differ in some very essential way from all other literature. And we may well demand that, when this literature gives us accounts of events which seem to stand apart from our ordinary experience, these accounts shall be regarded as different from narrations of the marvellous occurring in other histories. Christ is unique in human history. His relation to mankind is, in some way, different in kind from that of other human beings. Therefore we must expect that, in connection with Him, there will be found circumstances and events which are in kind different from our usual experience.

The influence of Christ upon the human soul is, for Christian people, the ultimate fact. When that influence is, for a man, the supremely effective power of his life, then all that belongs to Christ is lifted out of the ordinary.

This argument is not now presented as anything fresh or original. It is nothing of the kind, thank God. Our present purpose is simply to show that the way out of the difficulty created by the criticism of Holy Scripture is to follow Him who says "I am the Light of the world : he that followeth me shall not walk in darkness, but shall have the light of life."

(3) We have, thirdly, to consider the difficulties which are due to the character of the modern ethos. Our time is remarkable for its amazing mastery of material forces. The whole material environment of human life has been transformed by the application of scientific discoveries. The resources of man in his struggle with nature have been increased enormously. The globe has been covered with means of communication. The world has gained an economic unity which it never possessed before. The resources of luxury and of human enjoyment in all its forms have been vastly augmented. The result is that men are seeking more universally and also more reasonably than ever before for material satisfactions. The inevitable tendency is to concentrate attention on the visible and tangible, and to forget the unseen and spiritual. Earth has become so attractive that God and Heaven, if not disbelieved, are simply forgotten.

I think that here we have the explanation of most of the thoughtless unbelief, the carelessness, of the present day. Why is

it that in our great cities the busy multitudes pass the churches by without a thought or a qualm? Why is it that in an age when education is, in a manner, universally diffused, the enlightenment of the mind does not mean the illumination of the soul? It is surely because the modern world has given its heart to the material, having found the material world so eminently responsive to its demands. It is notable, as illustrative of this characteristic, that the dreams of social reconstruction, which are so many and so widely attractive at present, and which we sum up under the familiar term socialism, are for the most part endeavours to find happiness in a re-arrangement of the material means of life and enjoyment. It is strange that there are people who so far mistake the spirit of Christ as to quote his authority for efforts of this kind. It is hard to understand how the blessings which He pronounced upon the poor can be regarded as providing a sanction for the doctrine that poverty is a curse and the summing up of all evils. A materialistic socialism is indeed the very antithesis of Christianity as taught by Christ. But it is very characteristic of the age; and the prevalent conviction that all well-being can be measured in terms of pounds, shillings, and pence, which it represents, is one of the greatest obstacles in the way of religion at the present time. The truth is that the primary conviction of the materialistic socialist and of the materialistic individualist is precisely the same. Both are seeking human happiness in material satisfactions and both are doomed to exactly the same disappointment. The rush for wealth, the race for amusement, the greedy competition of the capitalists, and the equally greedy envy which fills the hearts of the needy: all these things are symptoms of one and the same disease. And, though these things always existed in the world and had at all times the same meaning and created the same difficulties in the way of religion, the conditions of the present age are such that they have attained a volume and a power unknown in former ages.

It is possible that the modern world is only at the beginning of a period during which the material resources of civilization will be augmented beyond anything which is now conceivable. On the other hand, it may be that we have reached almost the limit in this respect. But surely we must be convinced that, whatever the future may have in store for the human race, a time must come when the realization that material things are incapable of satisfying the deeper needs of man's nature will be forced upon the attention of mankind. History shows that,

from time to time, there comes an epoch when the need of the spiritual awakens in the human heart. Such is every great revival of religion. And is it not possible that the more complete man's victory over the forces of nature proves to be and the more he finds it possible to satisfy his material cravings, the more decisive will be his disappointment and his reaction towards the spiritual when that disappointment awakens his spiritual faculties?

The present materializing of human life with the carelessness of religion which it has brought ought not then to sink us in despair. We believe in God: we believe in the human soul: we believe that the soul of man cannot be permanently satisfied with material things. "O God, thou hast made us for Thyself and our souls can have no rest until they find their rest in Thee." There has never been an age when the truth expressed by those words has remained without witness. Is it not true that the questionings of the present day, the eager striving after everything novel and exciting connected with the borderland of our experience, the interest in the theosophies of the East and the pseudo-philosophies of the West, indicate a deep dissatisfaction of the soul with the material joys of the modern world? They express in their own imperfect way the cry of the soul after God: "O that I knew where I might find Him, that I might come even to His seat." They are the groping of man in his blindness for that which all the while is near him, though he knows it not: "Behold I go forward, but he is not there, and backward, but I cannot perceive him: on the left hand where he doth work, but I cannot behold him, he hideth himself on the right hand that I cannot see him."

In considering the unbelief of the more thoughtful minds of our day we saw that there has already taken place a re-discovery of the human soul. May it not be that this is the beginning of a great spiritual awakening which will affect the great unthinking masses as well as the more select souls?

The re-discovery of the human soul must mean also the re-discovery of God. Practically the two go together. When man knows himself as a spirit, he cannot recognize any cause of an inferior kind as the source of the universal order. And here we come to the last great difficulty of belief which demands our consideration. If the order of the universe is the manifestation of supreme and beneficent intelligence and will, how is it that nature and human life are so full of pain and suffering in various forms? What about the awful tragedies and disasters which overwhelm men—even good and



noble men—from time to time? There are many minds in our time to whom this difficulty is a positive nightmare. More than any other it oppresses those who, possessing sincere and real faith, are gifted with strong imagination and sympathy.

To such I would say, in regard to this problem above all, it is true that if the difficulties of belief are great, the difficulties of unbelief are greater. The horror of the pain of the universe becomes unspeakable if we lose our faith in a God who will bring blessing out of evil and make all things work together for good.

And we have the greatest and best of reasons for believing that it is of the very essence of the Divine Nature to bring good out of evil and over-rule all things for a final blessedness. For underlying all our thought and all our life—our commonest experiences as well as our science and our philosophy—there is one fundamental principle. It is this: the supreme power which works in the universe is trustworthy. Here is the basis of our confidence that what is true to-day will not be false to-morrow. It is the bed-rock on which rests our conviction that there is an order in the world which will not put us to utter confusion. It is the principle on which science depends in its discovery of the laws of nature, a principle which is ever gaining a larger relation to all that we hold for truth and certainty. And, in the last resort, what can this principle mean but this, that God will not fail the creatures whom He has made and who put their trust in Him.

#### DISCUSSION.

The CHAIRMAN proposed a hearty vote of thanks to the Bishop for his admirable paper and deferred further remarks to the close of the discussion.

Professor HULL seconded, and discussion followed.

Dr. W. WOODS SMYTH said: We are indebted to the Lord Bishop of Down and Connor for his brief but masterly sketch of Faith's difficulties, and we must be pleased to find that he lays the blame at the door not of Science only, but at the door also of those who have originated them and continue to cultivate them, namely, the theologians. It is not long since Professor Orchard contributed to us a paper pointing out that men of science were not perplexed with the worst of these difficulties. And it was shown that they existed mainly in the minds of the theologians themselves, and

largely owing to their ignorance of modern science. It is with mingled feelings of regret and satisfaction that I wish to draw attention to the mistake of regarding Bergson as a pioneer in the views he has given us upon life. These so-called new views have long since been contributed to the Victoria Institute by the late Professor Beale, and, as regards life's relations to free-will, are fully expounded in several of my own works. In short, Bergson does not here contribute one original thought, but, as I have pointed out to Mr. Balfour, lays himself open to having drawn heavily upon others without any acknowledgment.

Upon the ever burning question of Biblical Criticism I could wish that his Lordship had been more explicit. The critics continually declare that archæology, "the discoveries of the spade," make no difference whatever to their views—they show no tendency whatever to restore anything. The fact is, all their views have been framed without regard to the principles of right evidence or right reason or anything in the shape of any true science, and therefore they can still hold them in the face of the most convincing facts to the contrary.

We have before us at this present time an object lesson pointing to the entire truth of what I have just said. The *Times* has been reporting the lecture of the Rev. J. M. Thompson, Dean of Divinity, Magdalen College, Oxford, in which he rejects the Virgin Birth and Resurrection of our Lord. The late Professor Huxley said that from the standpoint of modern science the doctrine of the Virgin Birth and the Resurrection presented no difficulties to him. Men of science have generally followed Huxley's pronouncement. But here is a theologian almost absolutely ignorant of modern science, with a leading College of Oxford at his back, parading his difficulties and rejecting these doctrines, through sheer ignorance of the subject itself.

Mr. ROUSE said: When, by diligent excavations and careful decipherments, archæologists have proved that in the earliest dynasties of Egypt, Babylonia or Elam, men were already skilled artists and builders, wrote inscriptions or books with an elaborate alphabet, and gave other signs of a high civilization, one would expect thoughtful men to conclude that, since the Bible was correct in its description of men and manners at that early epoch, it was in all likelihood correct in its account of the first building of Babel

and of the events that preceded this, and the short existence that it ascribed to mankind prior to this—only about 2,000 years. But, instead of doing so, many archaeologists and teachers of natural science simply extend the period much further backwards from 12,000 years to 50,000 or 100,000 or even to 1,000,000 years; because, say they, if man has developed so imperceptibly in 4,500 or 5,000 years since those dynasties, how much vaster than even we supposed must have been the lapse of time during which he had previously developed from an anthropoid ape. And, leading newspapers write articles in keeping with such views; and the public read them with avidity, and pay little heed to the confirmation of Holy Writ yielded by the excavations and decipherments.

Colonel G. MACKINLAY said: I wish to add my sincere thanks to the eloquent author for his very admirable description of the conditions of thought at the present time. I am glad to note the hopeful spirit which pervades the paper, as evidenced by his assertion (bottom of p. 170), that at present the tendency of criticism is rather to restore than to destroy belief. May not a similar hopeful view be taken of the growing appreciations of the historical value of the books of the New Testament, as evidenced by the wonderful accuracy which Sir William Ramsay has shown exists in the book of Acts? Good progress is being made by others also in the same direction.

Mr. JOHN SCHWARTZ said: I heartily endorse our lecturer's view that the personality and influence of Jesus Christ is the great central truth of Christianity, I go further and state that this rockbed is the only foundation on which the Christianity of the twentieth century can be securely built. The clergy and most good Christian people seem to me quite out of touch with the virile opinions of the modern world, which recognizes that the sound historical basis of Christianity, as of all other religions, is found some century or centuries after initiation, when their votaries are sufficiently numerous and important to attract public notice, and the real facts are always garnished with myth and amalgamated with current religions and philosophical ideas. I agree with our author that "The continual fluctuation of opinion—of theory and of conjecture in the realm of scholarly criticism" is unsatisfactory, but I prefer it to the uncritical dogmatism of the middle ages and church fathers on which orthodoxy is based. We see Christianity in Roman Catholic countries drifting

down to the intellectual dregs of the population, and if the same unfortunate position is to be avoided in our own land the broadening of the bases of official Christianity appears to me the only safe course. I quite agree that many wild theories about New Testament dates have practically vanished, but I cannot agree that the majority of these books belong to the age and were written by the authors to which tradition assigns them, particularly the gospels, in fact, it is all theory and conjecture. Our author's thoughts about the laws of Nature (p. 169) appear to me to be confused: to control natural forces is surely not to alter their inexorable order. All that man can do is to move matter, so that the inexorable result is to his advantage. True science is not materialistic, on the other hand, Sir Ray Lankester, I think, rightly repudiates emphatically, in the name of the men of science in general, Sir Oliver Lodge's little flirtations with mysticism.

The Rev. C. L. DRAWBRIDGE, M.A., said: Before commencing to read the paper, his lordship mentioned the fact that the title of it had not been chosen by him, but by the Institute. What was the idea in the Bishop's mind when he made this explanation about the title, "Difficulties of Belief"? I think that the contrast between the spirit displayed by some speakers in the discussion which followed the reading of the paper, and the spirit of the paper itself, sheds light upon the point. One of the chief objects of some members, I gather, is to lessen the difficulties of retaining certain specific beliefs, *i.e.*, to find arguments to substantiate certain definite opinions—which some of the members entertain and do not intend to relinquish—rather than to go to the Bible and to nature with a perfectly open mind to find out what beliefs are suggested by an *impartial* study of the actual facts. There is, of course, a fundamental difference between (1) seeking the truth, for its own sake, wherever it may lead us, and (2) searching for arguments to support one's existing opinions. If any specific belief becomes more and more difficult in the growing light of modern investigation, with the result that ultimately it is impossible to retain it, what then? Surely the result is by no means to be deplored, because the discovery of the truth is of much more importance than the dogged retention of any old beliefs if they are not justified by the facts. The attitude of biblical scholars towards the Bible has changed considerably since the days of our grandparents. Whether that

fact is an advantage or the reverse depends upon what the Bible really is. It is much more important to know the actual nature of the Bible than to successfully retain any particular hypothesis with regard to what it is. One of the speakers in the discussion which followed the paper said that theologians are largely responsible for creating doubts : that the specialists, instead of removing "Difficulties of Belief," increase them. Does he mean belief in opinions about the Bible which the careful study of Holy Scripture itself renders it exceedingly difficult to retain, opinions which therefore are rapidly becoming extinct? Are such opinions superior to belief in what the great authorities consider to be the facts? Archbishop Temple once remarked : "To bid a man study and yet compel him under heavy penalties to arrive at the same conclusions as those who have not studied, is to mock him. If the conclusions are prescribed, the study is precluded."

Another speaker quoted the words of Our Master, the Son of God :—"Heaven and earth shall pass away, but my word shall not pass away," interpreting "My word," apparently, as referring to the words and phrases, *i.e.*, the text of the New Testament. But we have to go to the critics who compare the countless different texts together in order to discover what the correct text really is. And if Jesus Christ intended by the expression "My word" to refer to verbal phrases, He would presumably have written our New Testament Himself. Instead of doing so, He carefully avoided writing anything, except on one occasion with his finger in the dust where there was much traffic. And He told us that "the letter killeth but the Spirit giveth life." He also said :—"Lo, I am with you always even unto the end of the ages"; and, "I have many things to say unto you but ye cannot bear them now, but when He, the Spirit of Truth is come, He will guide you into all truth." One great effect of modern scientific study of the Bible has been to divert excessive reverence from the mere letter, and to concentrate attention rather upon the spirit of the Bible; also to attract the attention of the modern Christian ever more and more to the "Word" of God, in the sense in which St. John uses the term, namely, the Logos, the eternal Son of God, rather than to the mere words of what His followers wrote about Him. In proportion as the belief in verbal inspiration and infallibility has become more and more difficult of credence, the faith of Christendom has been

transferred more and more from the phraseology of the written scriptures to the living God. If, as we are convinced, He once inspired the ancients, He is presumably also inspiring the moderns, and gradually leading them into all truth. We have been driven to go behind the written record of the revelation, to the Holy Spirit Himself who inspired the writers of the record.

One speaker said that he did not believe that the Gospels were written by the authors, or at the time, ascribed to them by tradition. But even the Rationalist Press Association, in spite of considerable anti-Christian bias, recently published a book by a Rationalist who has come to the conclusion, forced upon him by modern criticism, that tradition was, after all, more or less right with regard to the dates and authorship of the Gospels. The book I refer to is by Mr. F. C. Conybeare, and represents an attack upon the essential beliefs of Christianity, but in it the author shows that the "difficulties of belief" in the Tübingen school have become too great for him. In his introduction Mr. Conybeare says:—

"On the whole the traditional dating (of the Gospels) seems to me to be the most satisfactory. Thus I should set the composition of Mark's Gospel, as we have it, about A.D. 70, of Luke at any time between 80 and 95, of Matthew's about 100, of John's about 110. I see little difficulty in supposing that the John Mark mentioned in Paul's Epistles drew up, some time after Peter's death, as Irenæus affirms, the Gospel named after him; and I am inclined to think that Luke, the companion of Paul, really wrote the third Gospel and the Acts. . . . How far back the Aramaic traditions exploited by Mark may go we do not know. . . . The sayings of Jesus must have been written down at an earlier stage, because they were wanted as a manual of moral teaching. . . . I should not, therefore, be surprised to learn that the Aramaic text of these sayings was current within a short period after the death of Jesus."

Some Christians are apt to give the erroneous impression to outsiders that they are afraid of investigation, because they doubt the conclusion, and that, in their opinion, faith is an act of violence exercised by the will upon the intellect, a suppression of reason in the interests of what happen to be their present opinions. Genuine faith in *God* includes, surely, the conviction that the most searching investigation can but result, under the inspiring and

revealing Spirit of God, in the discovery of the truth. And whatever the truth may be, it is God's truth and therefore preferable to human error, however venerable.

The following communications were then read :—

The Rev. CHANCELLOR LIAS wrote :—There are only a few comments which I desire to make on the Bishop's paper, and those rather of a confirmatory than of a critical kind.

1. I cordially agree with him in thinking that there is not, and never has been, the slightest contradiction between revealed religion, properly understood and explained, and modern science, when kept within its proper limits. Science concerns itself with the laws which govern phenomena. With the cause of those laws it does not concern itself. It is here that religion comes in, and tells us that the will of an intelligent Creator is that cause.

2. I am glad to find myself in agreement with his lordship when he says (p. 170) that modern Biblical criticism has not always been genuinely scientific. No doubt the critic *intends* his methods to be such. But "the unbridled use of hypothesis" forms, I cannot but think, a very large part of modern critical processes. And the repeated assertion of the finality of such criticism is about as unscientific as any assertion can be. Science is continually correcting its *data* by the light of new discoveries. The discovery of a single additional inscription might overturn the whole fabric which has of late been so positively affirmed to be "demonstrated beyond contradiction." Such a possibility true scientific criticism would unreservedly admit.

3. I desire also to associate myself with the remark (p. 169) that the Divine freedom of action is *not* bound by laws which do not bind the freedom of God's creatures. Natural laws, though irreversible, are, nevertheless, found to be plastic in the hands of finite beings like ourselves. Cannot God control and use them without either "suspending" or "violating" them? Some of the greatest scientific discoverers have been unable to conceive of force except as the expression of will.

4. I have not had an opportunity of studying carefully the recent researches into psychology. But one has always felt confident that a purely mechanical theory of the universe must eventually fail to satisfy the intellectual and moral cravings of humanity.

Sir ROBERT ANDERSON wrote : I cannot but fear that the Bishop of

Down's paper will hurt many whom it is intended to help. May I venture to suggest a revision of one of his lordship's statements. I would read it thus: "It was inevitable that when the public were duped into supposing that scholarship was testing Holy Scripture in the same way in which it tests all other documents, that fact had an extraordinary influence" (p. 170, line 19). For the sham Higher Criticism has tested "scripture in a way that would not be tolerated in the case of other documents." The movement originated, as we all know, with German Rationalists, who with the skill and subtlety for which the German mind is famous, produced a "clear and complete" case against certain of the sacred books. And English scholars who have traded on their labours are the dupes of the egregious fallacy that "a clear and complete case makes an end of controversy." But no accused person is ever committed for trial in our Courts unless a clear and complete case is *made out* in proof of his guilt. The object of a trial is to sift that case, and to hear what is to be said on the other side. If the critics could be brought before a competent tribunal, their case would be "laughed out of Court." For it is exploded not only by facts which they ignore, but by a fuller knowledge of the Bible than any one of them has given proof of possessing. For no one with an adequate acquaintance with the typology of scripture, or with the scriptural scheme of Divine prophecy would accept their "assured results." Therefore it is that no archæologist of note is on their side. And though many book scholars and popular preachers help to distribute their German wares, not a single front rank theologian of our time in Britain has been with them.

P. 171. Then again, the passage discriminating between "the mere book" and the revelation which the book contains, will, I fear, be generally misunderstood. I am not sure, indeed, that I understand it myself. Renan would have accepted that entire paragraph, and in his *Vie de Jésus* he has expressed similar thoughts in glowing words. But while there is in such thoughts and words a basis for "the religion of Christendom," this is not Christianity. For Christianity is a revelation and a faith. A revelation of, and from, the Lord Jesus Christ as risen and ascended, and a faith based upon that revelation as contained in the God-breathed scriptures of the New Testament. The blind and bitter infidelity **that** refused belief in "Jesus Christ" as "the most vivid personality in history or literature," belonged to a



bygone age. But this is quite apart from that faith in the Lord Jesus Christ, which brings us the forgiveness of our sins and eternal life.

Professor LANGHORNE ORCHARD wrote: That much modern unbelief is traceable to one or more of the three sources, to which attention is directed in this able paper, there can be no question. Mistaken views as to natural laws, and disparaging (if not irreverent) treatment of the Bible, have combined, with a feverish thirst for pleasurable excitement, to blur the clear perception of Truth, and to chill love for that spiritual beauty from which some eyes have wandered.

Natural law has been imagined as a fetish, some mysterious entity, a phase or aspect of a stern inexorable necessity, toward which, as regnant in the universe, man's only fitting attitude is the submission of the slave and vassal. It has not been generally recognized that natural laws are simply force-uniformities, *i.e.*, uniform manners of spiritual action, essentially expressions of Will which is not the less free that it chooses to act in certain uniform modes. Misconception as to the character of natural law has fostered a lazy acquiescence in the supposition of a blind deity called Fate, and led to indisposition to that will-effort without which can be no intelligent acceptance and belief of truth.

Disparagement of the Bible has produced a weakening of moral principle and a loosening of moral restraints. Sin has been made easier, and in many minds has arisen despair of finding certainty anywhere, truths the most solemn and most sure coming to be regarded as matters of opinion, or of probability only.

The modern "Higher Criticism," to which this disparagement of the Bible is due, is largely based on the theory of Evolution. The Evolution speculation is also to a great extent responsible for that thirsty craving after materialistic satisfaction which is a characteristic of our age, and of which the inevitable tendency is, as stated on p. 172 of the paper, "to concentrate attention on the visible and tangible, and to forget the unseen and spiritual."

But behind these "second causes" lies the love of the pleasures of sin in the fallen hearts of men. Difficulties of belief of God's word have their roots, and find their nourishment, here. We are reminded of this by Holy Writ, ". . . they do always err in their *heart*." "Out of the heart of man proceed evil thoughts . . . *foolishness*."

The CHAIRMAN in closing the discussion said: With regard to the contradictions among modern critics I should like to refer to *The Quest of the Historic Christ* by Schweitzer, where these contradictions are admirably shown in historic detail. The author criticizes each but seems to think that there has been some general result from the investigations. That result seems to me to be purely negative, and that it leaves us in the position of rejecting or accepting anything that Christ said or did, according as it suits any preconceived theory, until nothing is left at all.

We cannot get away from three facts: The fact of Christ, the fact of His teaching, and the fact of the results.

And in this connexion it is clear we must expect something unique in the circumstances of His earthly history.

He then called upon the Bishop to reply.

The BISHOP OF DOWN in reply said: Mr. Chairman and friends, I have to thank you very warmly for listening to my paper with such close attention and I have to thank the speakers for their kind words of appreciation.

Though certain criticisms have been made, I feel that I need not detain you long with any reply. A few words will suffice. Dr. Woods Smyth seems to me to underestimate the volume and amount of the unbelief which bases itself on the ideas and principles due to modern science. We must take account of things as they are. As regards modern criticism, I do not think it can be dealt with in the way he proposes. Criticism must do its work and do it thoroughly. Only thus can the truth emerge.

I cannot agree with his estimate of Bergson. There never was a great thinker, but people said of him, "We have heard all this before." But it is one thing to put forward an opinion, it is another thing to open up a path by which that opinion may be justified.

Some speakers have mistaken what I said about the laws of nature. A law of nature is, of course, only a statement of the way in which things are found to happen. Its constancy is a witness to the trustworthiness of the power which is manifested in nature. My point is that our experience shows that this constancy, instead of limiting man's freedom, gives to that freedom its great opportunity.

In connexion with the remarks of Mr. Drawbridge, while I agree with him that we should ever seek truth for its own sake, we must, I hold, consider that we prize our Christian Creed not merely because

we believe it to be true, but also because we have found in it the satisfaction of all the deepest needs of our spiritual nature. It is the greatest of our treasures. And just as a man will fight for his daily bread so a Christian will contend for his faith. He has found it so good that he must struggle to hold it fast when an effort is made to take it from him.

I must confess that I disagree considerably with Sir Robert Anderson. Christ says "I am the light of the world." He says "I am the way, the truth, and the life." He does not say "A book which shall be written is to be the light of the world, the way, the truth, and the life." The supreme value of the Bible is to be found in its witness to Christ.

Communication from Rev. A. IRVING, D.Sc., B.A.—

While appreciating very warmly the excellent paper of the Bishop of Down on "Difficulties of Belief," and as one who for more than half a lifetime has given his best thoughts to the subject, I crave permission to offer a little friendly criticism on several points, on which I think the argument of the paper might be strengthened—

1. There seems to me a certain weakness in Dr. D'Arcy's remarks about what he calls the "scientific creed" and "thinking in watertight compartments." They suggest the unsatisfactory position of those people who have a "mere reading acquaintance with science," as Professor Michael Foster, F.R.S., put it in his Presidential Address to the British Association at Dover, in 1899. To think in watertight compartments seems to me to set up a barrier to any advance towards the establishment of those harmonious relations between the scientific *Geist* and the theological *Geist*, which are essential to the working out of a Christian Philosophy, such as Dr. Arnold Whateley has contended for (*Transactions of the Victoria Institute*, vol. xliii)—a philosophy which shall include in one perspective the truths of Nature and the truths of Revelation.

2. "Pragmatism does not deny the validity of Science," writes Dr. D'Arcy (p. 167). It would talk nonsense if it did so. But surely *Faith* (which is wider in its scope than the mere intellectual process of "belief") has its pragmatic value.

3. Not having seen the recent articles in the *Hibbert Journal*, to which the Bishop refers, I may say that two years ago I suggested an affirmative answer to that question,—“Is there one Science of

Nature ?"—the possible answer being found in the full recognition of the Divine Immanence, as the consistent and persistent (though not of necessity rigidly uniform) expression of Transcendent Creative Thought and Will\* ; and the able paper by Dr. D'Arcy, supplemented by Bergson's *Creative Evolution*, lends strong support to the contention that any complete theory of Evolution must "include the immanence of Divine power."

4. The "revolt against mechanism" in recent years, and its necessary challenge to the mechanistic (so-called) philosophy of the Herbert Spencer school, following upon the re-affirmation of the reality of the spiritual side of existence, and the reference in that connexion to Henri Bergson, is upon the whole well considered. But one feels a sort of twinge at the phrase "the re-discovery of the soul." There is no "re-discovery" in our later advance, except to those whose acquaintance with science has been mainly formed from the superficial magazine literature of the last two or three decades, which too often displays a conceited unconsciousness of the limitations of science.

5. In the second part of his paper Dr. D'Arcy deals with the difficulties of belief which arise from *modern criticism*. Here he seems thoroughly at home. As the author leads on to the ineffable Personality of Jesus of Nazareth he reminds one of Archbishop Temple's *Bampton Lectures* (1884)—

"In the midst of present conflicts, in the war of opinion, and amid the fires of criticism, let us ever bear in mind the fact that Christianity is much more a living and life-giving principle than a theological system ; that it is not so much a philosophy as *loyalty to a life*, as that life was manifested in the Son of God."

---

\* See my paper on "Light, Luminaries and Life," *Trans. Vict. Inst.*, vol. xlii.

529TH ORDINARY GENERAL MEETING.

HELD IN THE ROYAL SOCIETY OF ARTS LECTURE HALL  
(BY KIND PERMISSION) ON MONDAY, MARCH 18TH, 1912.

JAMES W. THIRTLE, LL.D., M.R.A.S., IN THE CHAIR.

The Minutes of the previous Meeting were read and confirmed, and the following elections were announced :—

MEMBERS : Frank W. Challis, Esq., M.A. ; R. Maconachie, Esq., B.A.

ASSOCIATE : Mrs. G. Barbour.

---

*SOME LUCAN PROBLEMS.*

By Lieut.-Col. G. MACKINLAY, late R.A.

THE publication of the Oxford *Studies in the Synoptic Problem* last year, edited by Canon Sanday, had long been looked forward to, and the volume is a very valuable one, because it embodies the carefully considered results of several years of study by leading scholars, with the added advantage that they had continuously conferred together on the topics with which they dealt.

None of the Problems which they considered are more interesting than those which are to be found in St. Luke's Gospel. This Evangelist plainly states in his opening sentences that he writes "having traced the course of all things accurately from the first . . . in order."\* Nevertheless, his central chapters seem to be arranged in a manner which has long defied explanation.

These problems attract very considerable attention among thoughtful Christian people at the present time, and they may profitably be discussed at the Victoria Institute.

We begin our investigation by considering the sources from which the inspired Evangelist may have derived his information. We must confess that we have no means of knowing with certainty what they are ; many different theories of the dependence of the three synoptics on each other, and on other sources

---

\* Luke i, 3.

have been put forward at different times ; but the following is in broad outline, the scheme which is very generally accepted by scholars and Bible students at the present time. Without necessarily accepting it as a perfect statement of the case, it forms a convenient working hypothesis for our investigations.

The Gospel of Mark is generally believed to be the oldest of the synoptics ; rather more than three-quarters of Matthew and rather more than two-thirds\* of Luke are in close verbal correspondence with it, and they are thought to be based upon it. A portion of the remaining third part of Luke has close verbal resemblance with the parts of Matthew, which are not similar to Mark : this portion of Luke, therefore, is thought to be founded upon Matthew's Gospel, or possibly on some unknown document, called (Q) for brevity, which may have served as a source for both Matthew and Luke. The remaining portion of Luke, which is not similar to either Mark or Matthew (though, of course, it *may* be similar to (Q)) is considered to come from some source or sources special to Luke.

The sources of St. Luke's Gospel thus appear to be three—(1) Marcan, (2) Matthaean (or Q), and (3) Special Lucan.

As such a large proportion of the Gospel of Luke corresponds verbally with Mark, it is all the more strange to find that sources other than Mark are continuously employed in the numerous consecutive chapters (eight and a half, and one and two-thirds respectively) of the so-called "great" and "lesser Insertions" (Luke ix, 51, to xviii, 14, and vi, 20, to viii, 3). It is also very striking that all record of the incidents and sayings in the considerable period covered by Mark vi, 45, to viii, 26, is omitted by Luke. Not only is there a disuse of the Marcan narrative as in the cases of the two Insertions, but no information is supplied from any other source of the events and sayings of the period to which the Marcan chapters refer. This so-called "great Omission" is most abrupt, it occurs between the verses 17 and 18 of Luke ix.

These then are the special problems which we propose to investigate—

(a) *The great Insertion (Luke ix, 51, to xviii, 14).*

---

\* *Three limitations to St. Luke's use of St. Mark's Gospel*, p. 29, Rev. Sir John Hawkins, Bart., M.A., D.D., in *Studies in the Synoptic Problem* (abbreviated title *S.S.P.*). Edited by Rev. Canon Sanday, M.A., D.D., 1911.

(b) *The lesser Insertion (Luke vi, 20, to viii, 3).*

(c) *The great Omission between verses 17 and 18 of Luke ix, of all the matter contained in Mark vi, 45, to viii, 26.*

We shall first of all briefly summarize the explanations of these problems suggested by the Rev. Sir John Hawkins in his very careful and scholarly paper in the recently published Oxford *Studies in the Synoptic Problem*.

#### EXPLANATIONS OF THE LUCAN PROBLEMS.

##### (a) and (b) *The two Insertions.*

He states that in both of the Insertions Luke has certainly deserted\* his usual Marcan source. Our author suggests as an explanation of the great Insertion (Luke ix, 51, to xviii, 14), which very largely treats of journeying towards Jerusalem—

(1) Before Luke adopted the Gospel of Mark as his source, he may have drawn up this "travel document" and "he may thus have had it ready to his hand for incorporation here."†

(2) Luke may have already been in possession of the Marcan document, but he may have deliberately laid it aside, in preference for another account, which may have been more in order and first hand than that of Mark.

Our author, however, warns us that such conjectures "are easily made too much of, and when that is the case they bring discredit upon the serious study of the Synoptic Problem."‡ But he offers no further explanation for the existence of the great Insertion, and he does not suggest any reason at all for the lesser one.

##### (c) *The great Omission.*

Sir John gives much fuller and very interesting suggested explanations for the employment of the great Omission§ which we briefly summarize—

(1) The copy of Mark which Luke used may have been an early one, deficient of the verses under consideration. Our author,|| however, does not consider this more than a bare

\* *S.S.P.*, pp. 33 and 59.

† *S.S.P.*, pp. 55, 56.

‡ *S.S.P.*, p. 59.

§ *S.S.P.*, pp. 61–74, by Rev. Sir John Hawkins, see also pp. 24, 25, by Canon Sanday.

|| *S.S.P.*, p. 66.

possibility, and in this conclusion Canon Sanday\* agrees with him.

(2) If St. Luke referred to a copy of Mark such as we now have, he may have "accidentally left it unused, having perhaps been misled into doing so by passing in his MS. from the mention of feeding multitudes in Mark vi, 42-44, to that in Mark viii, 19-21, or from the name Bethsaida in vi, 45, to the same name† in viii, 22 (the place being nowhere else mentioned in Mark). . . . The evidence for it is greatly strengthened by consideration of the physical difficulties that must have beset compilers and copyists in the first century as compared with our own literary conveniences."‡ Sir John Hawkins thinks that this is a more than possible solution, but he admits that some will be unable to accept this explanation.

(3) St. Luke may have intentionally passed over this division of Mark's Gospel as unsuitable for his purpose for the following reasons§: two of the miracles which it contains, the healing of a man who was deaf and had an impediment in his speech, and the giving of sight to a blind man, may seem to detract from the dignity of Christ; in the one case our Lord "spat, and touched his tongue,"|| and in the other the healing was not immediately complete, because at first men were only seen "as trees, walking."¶ A tendency has been observed in Luke to avoid the narration of events and sayings which are somewhat similar to others, thus the omission of—(a) The feeding of the four thousand.\*\* (b) The second storm on the lake.†† (c) The general account of many miracles.‡‡ And (d) the refusal of Christ to give a sign,§§ may be accounted for. It is also thought that Luke generally limits the recital of anti-Pharisaic controversy, hence the omission of the discourse which contains the charge against the Pharisees, that "ye leave the commandment of God, and hold fast the tradition of men."||| Another tendency of St. Luke is "'to spare the twelve'—to say comparatively little as to their faults and failings"¶¶; this may

\* *S.S.P.*, pp. xxv, xxvi.

† There is, however, our author points out, a Western reading *Βηθανίαν*.

‡ *S.S.P.*, p. 66, by Rev. Sir J. Hawkins; also p. 16 ff., by Canon Sanday.

§ *S.S.P.*, pp. 67-74. || Mark vii, 33 ¶ Mark viii, 24.

\*\* Mark viii, 1-9 (c), with Mark vi, 34-44.

†† Mark vi, 45-52 (c), with Mark iv, 35-41.

‡‡ Mark vi, 53-56 (c), with Mark iii, 7-11.

§§ Mark viii, 11, 12 (c), with Luke xi, 16, 29.

||| Mark vii, 8.

¶¶ *S.S.P.*, p. 71.



account for the omission of any record of the disciples forgetting to take bread\* in the boat. Finally it is suggested that the mention of the term "dogs,"† applied to the Syrophœnician woman and her daughter, would not be pleasing to the Gentile readers to whom St. Luke's Gospel is chiefly addressed, and therefore the story by Mark in which this word appears is not reproduced by Luke.

Our author, however, repeatedly‡ warns us that much stress must not be laid on the supposed tendency of Luke to avoid the narration of somewhat similar incidents and sayings, because there are several instances where such duplications§ exist in his Gospel. He also warns us not to exaggerate Luke's general avoidance of anti-Pharisaic controversy "for we have to bear in mind the unparalleled reference to the Pharisees as 'lovers of money' in Luke xvi, 14, 15, and the rebukes delivered at the tables of the Pharisees in Luke vii, 36 ff., and xiv, 1-14."|| We may further add that too much stress must not be laid on Luke's tendency "to spare the twelve," because he twice¶ records the unseemly strife as to who should be the greatest among them; the failure of nine of them to cure the demoniac, and the Lord's remark when He heard of it,\*\* are also recorded by this Evangelist. With regard to the last incident it would be easy to argue, as our author hints might be done, that the story of the Syrophœnician woman might well have appeared in St. Luke's Gospel as an encouragement to his Gentile readers, because she received such very high praise and commendation from the Saviour.

It is an objection to the whole of this last method of explanation that a long consecutive portion of Mark's Gospel, containing a series of nine incidents and sayings, should *all* be considered unsuitable by Luke for a variety of reasons. As he generally follows a Marcan source, we should expect to find that the parts of Mark, which Luke might have considered unsuitable for his purpose, would be interspersed more uniformly in the narrative of the former, and not all clustered close together in one long consecutive passage.

---

\* Mark viii, 14.

† *S.S.P.*, p. 73, Mark vii, 27, 28.

‡ *S.S.P.*, pp. 35, 56, 68.

§ Compare Luke ix, 1 ff., with x, 1 ff.; v, 12 ff., with xvii, 12 ff.; viii, 19 ff., with xi, 27 ff.; and ix, 46, with xxii, 24.

|| *S.S.P.*, p. 70.

¶ Luke ix, 46-48; xxii, 24-27.

\*\* Luke ix, 40, 41.

We thus find that the most recent explanations of the problems presented by the two Insertions and by the great Omission, under the generally accepted theory of the structure of St. Luke's Gospel, are not very satisfactory.

Are there not any other possible explanations which may be carefully weighed and considered? Let us see.

It has lately been stated that the structure of the central chapters of St. Luke's Gospel consists of three overlapping or parallel narratives, called for convenience Luke (A), Luke (B), and Luke (C), each containing an account of Christ's last journey to Jerusalem, as well as other subjects. This statement is supported by reasons\* which cannot be reproduced here from want of space. Supposing, however, for the sake of argument, that the existence of the three narratives is accepted, it will be of interest to search and see if we can obtain any fresh reasons for the use of the two Insertions, and for the great Omission in the Gospel of Luke.

Our first step will be to indicate the new theory of the structure of St. Luke's Gospel with the aid of a diagram (facing p. 218).

#### DESCRIPTION OF DIAGRAM (facing p. 218).

It is affirmed (see diagram) that the gospel of Luke leads on in regular, though at times interrupted chronological sequence from the beginning up to the arrival at Bethany, near the end of the Ministry, at the end of Chapter x. This is indicated by the highest of the three horizontal bands in the diagram. It will be noticed that the right hand part of the band is widened: this indicates the first, or Luke (A), narrative in the scheme. It begins with the Sermon on the Mount† in the early summer of A.D. 27. An open space is observable in it: this points out the great Omission, between verses 17 and 18 in Luke ix, of all contained in Mark vi, 45, to viii, 26,‡ during the six months, spring to autumn, A.D. 28.

The left hand thinner part of this highest band contains the single account of the earlier part of the Ministry. It, too, has an open space, indicating a greater Omission, between verses 13 and 14 in Luke iv, of all that is narrated in John i, 35, to (about) iv, 54, during the period autumn A.D. 25 to autumn A.D. 26. This

\* "St. Luke's threefold Narrative of Christ's last journey to Jerusalem," by Lieut.-Col. G. Mackinlay in *The Interpreter*, April, 1911.

† Luke vi, 20.

‡ See also Matt. xiv, 22, to xvi, 12, and John vi, 15-71.

Omission at the beginning of the Ministry is a feature common to all the Synoptic Gospels.

The second, or Luke (B), narrative is indicated by the middle horizontal band in the diagram. It begins immediately after the end of Luke (A), at Luke xi, 1, as indicated by the dotted arrows which follow a serpentine course. It goes back to the same time as the beginning of Luke (A), to the Sermon on the Mount in the early summer of A.D. 27. It also leads on in regular, through interrupted, sequence from its beginning until its close with the Parable of the great Supper, ending at Luke xiv, 24—some little time nearer to the Crucifixion than the ending of Luke (A) narrative. An open space is observable in this band also, indicating a greater Omission between the verses 21 and 22 in Luke xiii of all that is contained in Mark iv, 33, to ix, 50,\* during the *twelve* months winter A.D. 27–8 to winter A.D. 28–9.

There are thus three considerable Omissions† in the Lucan account of the Ministry; but no hint whatever is given in the text of their employment. It is only by induction and comparison with the other gospels that we know that Omissions have been made. The first of these is also made by both Matthew and Mark,‡ but *they* both indicate that some period of time had elapsed because they refer to the imprisonment of John the Baptist. But Luke makes no such reference—an instance of the hidden method which he not unfrequently employs.

The third, or Luke (C), narrative is indicated by the lowest and shortest of the three horizontal bands in the diagram. It begins immediately after the end of Luke (B), at Luke xiv, 25, as indicated by the dotted arrows which follow a serpentine course. It only goes back to about the time of the Transfiguration (autumn A.D. 28). It leads on in regular uninterrupted chronological sequence to the end of the Gospel. It will be noticed that the right hand part of this band is narrowed; this indicates the resumption of the single narrative. Luke (C) concludes at the end of Luke xx, at a time nearly coinciding with the ending of Luke (B). The single narrative then continues from the beginning of Luke xxi, and it leads on to the

\* See also Matt. xiii, 34, to xviii, 35, and John vi, 1, to x, 39.

† Between verses 13 and 14 of Luke iv.

”	”	17	”	18	”	ix.
”	”	21	”	22	”	xiii.
‡	”	11	”	12	of Matt. iv.	
”	”	13	”	14	of Mark i.	

account of the Crucifixion, indicated by the cross, and to the Resurrection and Ascension, indicated by the arrow pointing upwards. There is no open space in the lowest band, because there is no noticeable long Omission in Luke (C) as there is in Luke (A) and in Luke (B).

The single account at the beginning blends into Luke (A), so that it is not very easy to say for certain where the latter actually begins. Similarly Luke (C) blends almost imperceptibly into the single account which follows it.

It will be observed that there are several beginnings or re-beginnings in the three narratives; these are very clearly marked in the diagram, but they are not at once apparent in the text. The chief of these are the beginnings again after the two great Omissions, and the beginnings of Luke (B) and Luke (C). It is an acknowledged fact that Luke starts again\* most abruptly after the great Omission, there being no explanatory words such as "afterwards" or "after these things" to indicate that any period of time had elapsed. The same remark also applies to the greater Omission between the verses 21 and 22 of Luke xiii. Hence it is by no means improbable that the beginnings of Luke (B) and Luke (C), though not indicated in any direct manner in the text, may also have been discovered by careful induction and comparison.

As a rule the narratives do not relate the same events, but an exception is made in the case of the start for the last journey to Jerusalem, indicated in the diagram by the rectangle on each band in the winter A.D. 28-9. This is alluded to in each narrative,† though in different words, but always in a somewhat abrupt manner, as if to draw special attention to this deliberate progress and to its tragic ending.

The blackened parts of the bands represent the narratives which have a considerable Marcan source, and the shaded parts represent the Insertions; it will be noticed that the lesser one is in the first half of Luke (A); the great one begins towards the end of Luke (A), it continues through the whole of Luke (B) and finishes with the first half of Luke (C). The A.D. scale helps to indicate the dates. The generally accepted date A.D. 29 is assumed for the Crucifixion. Though the *actual* year is not a matter of importance for our present investigation, yet the use of *some* definite date simplifies language, as thus we avoid the

---

\* Luke ix, 18.

† Luke ix, 51; xiii, 22; xvii, 11.

use of such awkward expressions as the autumn of the second year before the Crucifixion, etc. The bracket shows the Sabbath year.\*

Reference verses are given at various places. It will be noticed in the diagram that spaces are allotted according to chronology and not according to the number of chapters and verses assigned to different incidents. Thus, the events at Jerusalem before, at, and after the Crucifixion occupy five long chapters at the end of the gospel; but as they all occurred in a short period of time, a short space only is given to them at the end of and just after Luke (C).

We have thus briefly shown the structure of the central chapters of the Gospel of St. Luke according to the new explanation. The object of this threefold arrangement is doubtless to draw emphatic attention to that which comes just after the end of all the narratives—the Death and Resurrection of the Lord Jesus Christ. This is pre-eminently the aim and object of the whole gospel. It is fully in accord with St. Luke's methods to make use of threefold repetition in order to give great emphasis.†

#### NEW EXPLANATIONS OF THE LUCAN PROBLEMS.

Granting then the existence of the three narratives, it is natural to expect—

- (a) *Some distinctive feature in each.*
- (b) *Some general resemblances or interdependence of arrangement between them.*

We propose to show that the great Insertion materially aids to differentiate the narratives from each other, and that the lesser Insertion and the great Omission create resemblances in the general arrangement of each narrative. Fresh explanations will thus be given of these three Lucan problems.

---

\* For the demonstration of this date see *The Magi, how they recognized Christ's Star*, p. 103, Lieut.-Col. G. Mackinlay, 1907.

† Emphatic attention is drawn by Luke vii, 12; viii, 42, and ix, 38, to the Death and Resurrection of the "Only" Begotten Son of God. By Luke xv, 4, 8 and 32, to Luke xix, 10; by Acts ix, 3-19; xxii, 5-16, and xxvi, 12-20, and also by Acts x, 1-48; xi, 4-18, and xv, 7-9, to the preaching of the Gospel to the Gentiles; St. Luke gives several other instances of threefold repetition with the same object in view.

*(a) Some distinctive feature in each narrative.*

We find the narratives differing from each other, because a different source predominates in each; the proportions are *approximately* as under, the heavy type showing the amount of the chief source in each case.

TABLE.

Narrative.	Source.		
	Marcan.	Matthæan or (Q).	Special to Luke.
Luke (A)... ..	<b>0·5</b>	0·2	0·3
Luke (B)... ..	Nil*	<b>0·55</b>	0·45
Luke (C)... ..	0·35	0·2	<b>0·45</b>

Though Luke (A) contains the whole of the lesser Insertion (Luke vi, 20, to viii, 3), and also a small part of the great one (Luke ix, 51, to x, 42) (*see* diagram), yet, nevertheless, on the whole, the usual Marcan source predominates. Luke (B) is wholly contained in the great Insertion, hence the Marcan source is thought to be entirely absent; it begins with extracts from the Matthæan (or Q) Sermon on the Mount in the summer of A.D. 27, and we find the Matthæan source predominating. The first half of Luke (C) consists of the last part of the great Insertion, and thus the predominance of the usual Marcan source is suppressed in this narrative, taken as a whole; Luke (C) is rich in special parabolic discourses, and the special Lucan source predominates.

If, as seems probable, the Evangelist wished that there should be some distinctive feature in each narrative, we see a good reason for the employment of the great Insertion, for it has materially contributed to cause this result by helping to make a different source predominate in each.

\* There are some slight resemblances to Mark in the great Insertion, but they are not numerous. Even if taken into account they would not materially affect the proportions given in this table.

(b) *Some general resemblances or interdependence of arrangement between the narratives.*

Coming now to resemblances in arrangement between the narratives, we find that the employment of the lesser Insertion allows Luke (A) to begin, as does Luke (B), with extracts from the Sermon on the Mount, or other addresses, in the summer of A.D. 27. These are to be found in Matthew (or Q) but not in Mark. Hence a reason is suggested for the employment of the lesser Insertion.

We now proceed to search for the reason for the great Omission, which is in Luke (A) narrative. On looking at the context we find that it embraces a period of six months, as indicated in the diagram, for Luke ix, 17, tells of the miracle of feeding the five thousand, which was at Passover\* (early spring) A.D. 28, and Luke ix, 18, was a week before the Transfiguration, which is generally allowed to have been in the autumn† (A.D. 28).

Luke (B) covers much the same total period of time as Luke (A) (see diagram). We might naturally expect that this second narrative, following as it does a Matthaean (or Q) and also a special Lucan source, would supply the deficiency caused by the great Omission in Luke (A). But as a matter of fact, we find a *greater* Omission in Luke (B), which includes the great Omission of Luke (A) with three months added both before and after it. For Luke xiii, 18–21, tells of the Parables of the Mustard Seed and the Leaven; according to both Matthew‡ and Mark§, the Parable of the Mustard Seed was spoken at the same time as that of the Sower (winter A.D. 27–8), and Matthew also adds that the Parable of the Leaven was given at the same time; Luke xiii, 22, tells of the start for the final

\* John vi, 4–14. There was according to Matt. xiv, 19, "grass"; Mark vi, 39, "green grass"; John vi, 10, "much grass." Grass is only to be seen in Palestine for a few weeks in spring. It is afterwards burnt up by the dry summer heat.

† Peter's suggestion to make three tabernacles (Luke, ix, 33) was almost certainly a reference to the booths then being made at the Feast of Tabernacles (autumn).

‡ Matt. xiii, 31–33. It is generally thought that Matthew often collects together the sayings of Christ uttered at different times, but on this occasion, according to Dean Alford, *The New Testament*, note on Matt. xiii, 1, 2, "The Seven Parables related in this chapter cannot be regarded as a collection made by the Evangelist as relating to one subject, the Kingdom of Heaven and its development; these are clearly indicated by verse 53 to have been all spoken on *one and the same occasion*, and form indeed a complete and glorious whole in their inner and deeper sense." The italics are the Dean's.

§ Mark iv, 31, 32.

journey to Jerusalem, which was not undertaken till the next winter A.D. 28-9. Consequently a greater Omission of *twelve* months elapsed between the verses 21 and 22 of Luke xiii of all the events contained in Matthew xiii, 34, to xviii, 35.\* In other words, the great Omission in Luke (A) is intensified by a greater one in Luke (B).

As the Omission in Luke (B) is of greater length than the other, there can be no ground for any idea of a suggested mistake in copying or in reference, because there is no opportunity in it for confusing the accounts of the two feedings of the multitudes or the two mentions of the name of Bethsaida. On the contrary the inference to be drawn from the employment of this second (greater) Omission is surely that there is a design to draw decided attention to a definite meaning for the other, the so-called great Omission (Luke ix, 17, 18) in Luke (A). We must remember that a good historian, who makes a skilful use of the materials at his disposal, may sometimes effect his purpose by his omissions as well as by his statements; just as a skilful artist will at times draw a veil of cloud or shadow over one part of his picture in order to strongly emphasize some other feature to which he wishes to draw special attention. In accord with this view we may remark, that if the great Omission represents the cloud or shadow, the events and sayings which are not recorded† are not of importance for the main object of the Evangelist, as they do not touch at all upon the coming Death of the Lord. It is true that the cloud of the greater Omission veils some prophecies of the coming Passion, but they have already been recorded in Luke (A).‡ In each case the cloud lifts at a point when the clearest light shines on the sad preliminaries of the fateful climax.

We are now in a position to consider the resemblances in the arrangements of the narratives a little more fully; these are strongly affected by the great and greater Omissions. Both Luke (A) and Luke (B) begin as we have already noticed with extracts from the Sermon on the Mount, these are followed in each case by the record of certain incidents combining to form an introduction. We may notice a gradation in the introductions, the first one in Luke (A) covers a period of about ten months (see diagram); that in Luke (B) is curtailed to only seven,

---

\* Corresponding to an Omission of all contained in Mark iv, 33, to ix, 50.

† Mark vi, 45, to viii, 26.

‡ Luke ix, 22-45.



because the greater Omission begins earlier than the other, and in Luke (C) the introduction disappears altogether. The parts after the Omissions in Luke (A) and Luke (B) both resemble Luke (C), and they differ greatly from the introductions; the conditions after the Omissions are utterly changed, we then come, as it were, under the more immediate shadow of the cross, when many prophecies of the coming Crucifixion are plainly expressed.

Does not the arrangement caused by these two Omissions remind us of some masterly piece of music, in which after sweet restrained melodies, there comes a pause,—a pause of expectation, to be followed by some crashing notes of an utterly different, perhaps almost of a discordant character?—a striking contrast to that which had gone before. So in each of the introductory parts in Luke (A) (vi, 20, to ix, 17) and Luke (B) (xi, 1, to xiii, 21) we have the quiet Ministry of the Lord undisturbed by any great alarms; but after the Omissions, corresponding to the pause in the music, we find ourselves in each case plunged at once into deeply moving scenes; in Luke (A) we have sudden and very plain prophecies of the coming Passion,\* and in Luke (B) we abruptly begin the account of the start† for the last journey which led to death at Jerusalem.

This explanation of the reason for the great (and also for the greater) Omission is surely in keeping with the methods of the skilful and accurate historian Luke is universally allowed to have been, and it avoids all suggestion of mistake in reference or in copying, which must run counter to the opinions of those of us who believe that St. Luke was divinely guided and inspired in the preparation of his Gospel.

We have as yet but little considered the arrangement of Luke (C). As this is the last of the three, we do not wonder that an introductory part is no longer employed, but the narrative begins chronologically just after the time of the end of the great Omission of Luke (A) (see diagram), autumn A.D. 28: this last account then only records the last six months of the Ministry. In general arrangement it may be said, as already mentioned, to resemble the second parts of Luke (A) and Luke (B). It plunges immediately "*in medias res*," the Cross is brought into view at once,‡ and the cost is deliberately counted.§ But though Luke (C) covers a shorter period of time

---

\* Luke ix, 22, 31, 44.

† Luke xiv, 27.

‡ Luke xiii, 22.

§ Luke xiv, 28.

than either of the others, its actual length in verses is almost as long as the longest. It seems as if the Evangelist hesitates to hurry on to the narrative of the great tragedy, and so he lingers over the recital of Our Lord's teaching in many of the gracious Parables which are special to his gospel.

#### SUMMARY.

We briefly summarize the explanations of these Lucan Problems under the ordinary, and under the new supposition of the construction of the Gospel of St. Luke.

Sir John Hawkins himself generously criticizes the possible explanations which he has suggested for the great Insertion, calling them conjectures which may be harmful if made too much of. He does not bring forward any reason for the use of the lesser one. With regard to the great Omission, he makes objections to each of the three explanations which he has suggested as follows—he considers the first only a bare possibility, the second will not be accepted by some, and parts of his third explanation are supported by arguments on which he warns us not to lay very much stress.

If we assume the existence of the three narratives, Luke (A), Luke (B), and Luke (C), and that the Evangelist wished to give (a) Some distinctive feature to each, and (b) Some general resemblances or interdependence of arrangement between them, the following explanations suggest themselves for the employment of the two Insertions, and of the great Omission.

(a) The great Insertion materially helps to enable a different source to predominate in each narrative, for it annuls the Marcan source in whole or in great part in both Luke (B) and Luke (C), and thus it allows the Matthaean or (Q) source to prevail in the former, and the special Lucan one in the latter, the usual Marcan source predominating in Luke (A).

(b) The lesser Insertion, by forsaking the ordinary Marcan source, allows Luke (A) to begin with quotations from the Sermon on the Mount, and thus it resembles Luke (B).

The great Omission which occurs in Luke (A) evidently corresponds to and resembles the greater Omission in Luke (B). Each of them cuts its narrative into two parts, the second part of each resembling the whole of Luke (C). The great Omission therefore plays an important part in causing a general resemblance in the construction of the three narratives.

By the use of the great Omission in Luke (A) the Evangelist says in effect, "Enough of this comparatively tranquil narrative,

we must concentrate the space now at our disposal on the short period containing the more immediate premonitions of the coming death of the Lord, in order to give emphatic attention to this great theme of my gospel." This idea is supported and emphasized by the greater Omission in Luke (B), the existence of which has not, apparently, hitherto been noticed.

We may notice incidentally that the abruptness of the great Omission and also of the two other greater ones,\* are good examples of Luke's habit of hiding his methods. A reply is thus suggested to meet an objection which has been made by some to the existence of the three parallel narratives, that it is unlikely that the Evangelist would have employed them, unless he had said so, and unless he had plainly indicated the beginning and end of each. He did not do so, because it is the *habit* of the Evangelist often to conceal his methods.

Our study of these Lucan problems causes the intellect to admire the wondrous skill which the Evangelist has displayed in the presentation of the Gospel story, and the heart is deeply impressed with the immense grandeur of his sublime theme.

NOTE.—In the foregoing paper each of the two interruptions of the ordinary Marcan source is called an "Insertion,"—a designation which has been employed for some time, and which seems to be suitable. In the *Oxford Studies in the Synoptic Problem* this term is also employed by one of the authors, but the three others, who write on the subject, use the word "Interpolation" instead. Surely this is an unfortunate designation, because, according to the *English Student's Dictionary*, J. Ogilvie, 1908, the meaning of the word to *interpolate*, is "to insert a spurious word or passage in a MS. or book."

#### DISCUSSION.

Mr. WALTER MAUNDER, F.R.A.S., said: I was very pleased that Colonel Mackinlay in his valuable paper spoke of the additions made by St. Luke to the synoptic narrative as the greater and lesser "Insertions" rather than "Interpolations." To interpolate is "to insert" some foreign material in a fabric or substance in order to improve its appearance; it is, in short, adulteration.

---

\* Luke iv, 13, 14, and xiii, 21, 22.

When the word is applied to manuscripts or documents it necessarily has the same significance, it is falsification. So Cicero, in his second oration against Verres, accuses the latter of having falsified the judicial registers during his term of office by deleting names, by altering them, and by interpolating them. And St. Ambrose uses the word in the same sense with respect to attempts to falsify the Holy Scriptures. It is true that in modern science (as in astronomical calculations) "Interpolation" is the name given to a well recognized and perfectly legitimate process. But in general, and especially where we are dealing with documents, "Interpolation" has a sinister meaning, and hence it is not right that it should be used in the present connection.

The Rev. A. IRVING, B.A., D.Sc., welcomed Colonel Mackinlay's attempt to present some results of recent research, he thanked the author for the great pains and labour bestowed upon his paper and for the ingenious construction of the diagram. But he could not resist the conclusion that the facts had been represented in an untrue perspective.

In the first place the fact that the Lucan *evangelium* was only the first of two volumes of *one continued history* seemed to have been lost sight of. It appeared to be a fundamental misconception to make Luke's arrangement of his materials focus on the Crucifixion of the Lord Jesus as the final goal. Luke looked forward beyond the gloom of Calvary, to the great Pentecostal Illumination, and to the opening of the door of faith to the Gentiles.

In the second place it appeared that the author seemed to have forgotten that St. Luke, as an educated Gentile, had the instruction and edification of the Gentile churches for his primary object: and a careful perusal of the remarks relating to both the great Omission and the two main Insertions dealt with in the paper might enable anyone to see that our Evangelist had made his *additions* to the Marcan narrative, while omitting from his own history large portions of what had been already well recorded by Mark.

Mr. MARTIN ROUSE, B.A., said: Most assuredly Colonel Mackinlay is right in saying that Luke, from the end of his tenth chapter, goes back to a time just preceding the Sermon on the Mount, when the Saviour had taught men how to pray, and had given the same pattern of prayers that we find at the outset of chapter xi. Now the sermon was delivered in the middle of the

second year of His Ministry, and the Transfiguration (which Luke has narrated in his ninth chapter) took place at the end of the third year; therefore, if Luke's account were consecutive from his tenth to his eleventh chapters, we should have one disciple on behalf of the rest (including the twelve) asking his Master how to pray nearly two years after He had taught them how to do so, although they had been in His company ever since.

But by comparing Matthew's with Luke's story of the Sermon on the Mount, we perceive that the Saviour first spent a whole night in prayer high up on the mountain; then at daybreak called His disciples around Him, discoursed with them privately and chose from among them His special witnesses, the twelve; and then descended with them and the rest to a "level place," where He preached to multitudes (*cf.* Matt. v, 1, 2; Luke vi, 17-20 *et seq.*; Luke vii, 1; Matt. vii, 28, 29). In His more private discourse He uttered the blessings generically, "Blessed are the poor in spirit, etc.;" in His fully public discourse, "lifting up His eyes upon His disciples," and thus pointing them out to the multitude, He said specifically, "Blessed are ye poor, etc." (*cf.* Matt. v, 2-12, with Luke vi, 20-23). In the same way, as we may well conclude, one of Christ's disciples, who had been standing near Him while He was still at prayer at the close of that night on the mount, requested, as soon as He called them around Him, that He would teach them how to pray, even as John the Baptist had done for his disciples. In response the Blessed One taught them His pattern of prayer, and afterwards, when He went down with the disciples to the level place, He repeated this pattern as a sequel to other counsel regarding prayer.

On the other hand, Mr. Rouse objected that the lament over Jerusalem (Luke xiii, 34) and the parable of the great Supper (Luke xiv, 16-24) could not have been spoken at the time of the similar lament in Matthew xxiii, 37, and of the somewhat similar parable of the Marriage of the king's son narrated in Matthew xxii, 1-14. Because the two latter were spoken *after* Christ's entry into Jerusalem upon the colt (Matthew xxi, 1-11), while the two former must have been spoken *before* it; for the Lucan Parable (spoken after the Lucan lament) was on a Sabbath (Luke xiv, 1). It is readily seen that the entry into Jerusalem must have been on a *later* day than Christ's last Sabbath on earth (John xii, 1-12).

Mr. Rouse thought that the words "Get thee out, and go hence, for Herod would fain kill Thee" (Luke xiii, 31), pointed to the fact that Christ was far from Jerusalem, and so he considered that the *days* in the passage "I must go on My way to-day, and to-morrow, and the day following" (Luke xiii, 33) could not mean literal days, as Jerusalem could not be reached so quickly, especially as one of the days just before the entry on the colt was a Sabbath. Mr. Rouse therefore concluded that the *days* mean *years*, as in Ez. iv, 4-6, and therefore the lament recorded by Luke was spoken two years before the Crucifixion, at the time of the Sermon on the Mount. He said of the lament, "the words are prophetic, not beginning to be fulfilled until after the Crucifixion; so they may have been uttered upon an occasion noticed by Luke and have been repeated upon the Lord's last visit to Jerusalem, as told by Matthew." He also thought that the Lucan lament could not have been spoken near the very end of the Ministry, because in a later chapter (Luke xvii, 11) our Lord is spoken of as travelling between Samaria and Galilee; he therefore did not see any reason for supposing that Luke made a third beginning just after the parable of the great Supper at chapter xiv, 25.

Mr. SIDNEY COLLETT said: I am sure we all recognize that Colonel Mackinlay must have spent an immense amount of time and pains on the preparation of this subject, but is there really after all such a "Lucan Problem" with its "Insertions" and "Omission" as he has submitted to us this afternoon?

I notice that the whole argument of his lecture is based upon a pure *supposition*, as stated by himself (p. 188), that "the Gospel of Mark is *generally believed* to be the oldest of the synoptics." But we do not really know for certain in what order those gospels were written. And if it is some day discovered that St. Mark did not write his gospel first, then the whole structure of this elaborate argument falls to the ground.

St. Luke tells us himself his source: in his opening sentences in chapter i, 3, he makes the remarkable statement that he had "*perfect understanding of all things from the very first.*" Therefore, as his understanding, according to his own testimony was both *perfect* and *complete*, how could there be any necessity for him to borrow any of his matter from Matthew or from Mark?

After describing the purpose of each Gospel, Mr. Collett drew

attention to the many striking differences between them, which he thought clearly precluded copying one from the other; and he pleaded for a more simple reading of scripture recognizing the Divine statement of 2 Peter i, 21.

Mr. F. W. CHALLIS, M.A., said: While heartily endorsing the principle on which Mr. Collett has just been insisting—viz., the supernatural guidance afforded the Evangelists in framing the Scripture—I cannot altogether appreciate his present application of it.

Broadly speaking, it seems to me that the whole drift of Colonel Mackinlay's able paper has been missed in this discussion. I attribute this largely to the evident fact that most of the present audience have not perused his previously published brochure, which elaborated the original thesis—that *there is in St. Luke's Gospel a threefold narrative of the last journey to Jerusalem*. It is this thesis which has been attacked in discussion to-day; and the main point of the paper (which applied that thesis to the particular problem of "Omission" and "Insertions") has evoked practically no comment.

Now the matter of the thesis (since this is the point of attack) stands thus:—The words of Luke i, 3 ("in order"), suggest *some* kind of chronological sequence. Grant this, and the question arises: Is the sequence unbroken, or is it interrupted by retrogressions?

Some say that there is only *one* line of narrative, and they deny retrogression. But is this possible? For if chapter ix admittedly deals with the last journey to Jerusalem, in chapter x we reach Bethany, on the outskirts of the city. Yet in chapter xix we are passing through Jericho!

Mr. Rouse admits this and agrees that a fresh thread of narrative begins in chapter xi, 1, but he admits *only* this and claims uninterrupted sequence from chapter xi, 1, onwards. But can we accept Mr. Rouse's contention that chapter xiii, 32, etc., dates back two years from the end? He is asking us to believe that the lament over Jerusalem and the doom pronounced (34, 35) were in the third year before the completion of the Lord's ministry!

It seems, therefore, that the closing verses of chapter xiii provide a further clear landmark, and that *a threefold narrative must be admitted*.

This was Colonel Mackinlay's former thesis (*assumed* in to-day's paper). It was helped by his recognition of three distinctly prominent spiritual notes dominating these three passages of incident. In Luke (A) the Lord's requirement from all, "*the obedience of faith*"; in Luke (B) the Lord's warning against that indifference and worldliness which register themselves in *unbelief* and rejection of the Gospel; in Luke (C) the Lord's encouragement to *individuals* who—while the shadows deepened through the general public attitude of pride and hostility—might humbly and gratefully accept His proffered grace to meet their need.

This commends itself as possible to the spiritual mind.

The following written communications have been received:—

The Rev. Sir JOHN HAWKINS, Bart., M.A., D.D., writes: I quite agree with you that "Insertion" is a better, because a more neutral term, than "Interpolation." I remember hesitating before using the latter, but when I began to write on this particular subject some ten years ago, it seemed to have established itself as the ordinary designation of Luke ix, 51, to xviii, 14. And I consulted the great Oxford dictionary, which shows that the word has been by no means limited to unjustifiable insertions, though it has been "especially" applied to them.'

The Rev. J. ORR, D.D., writes: I have read with care and much interest your valuable discussion on the Lucan Problems. The questions about Luke have naturally occupied my own mind a good deal, and there are points in your view of the matter which are new to me, and from which I hope I may derive help. Whatever our theory of the Synoptic Gospels, the facts of what you call the "great Insertion" and the "great Omission," are there as problems to be solved. I am more impressed by what you say about the parallel narratives in the Gospel, than by your explanations of Luke's "Omission" of a long Marcan passage. I agree fully with Sir John Hawkins that the suggestions offered for the "Omission," as detailed by you, and considered on pp. 189–191, are in no way adequate. But the æsthetic reason—or artistic ("the cloud or shadow" of p. 198)—hardly seems to me one which a critical treatment of the Gospel is likely to regard as sufficient either. May I say that my own feeling is perhaps slightly affected by the fact that I am personally unable to accept the theory which regards Matthew and Luke as based—in their common parts—on Mark's Gospel.



Instead of regarding Luke as *omitting*, a good deal may be said for thinking of Mark's sections as an "*Insertion*" on his part into the general Synoptic tradition, with help from the so-called Matthaean source—for Matthew does seem to be the ultimate authority for most of the discourses and some incidents.

The Rev. J. VERNON BARTLET, M.A., D.D. (another of the authors in *Studies in the Synoptic Problem*) writes: You claim for your theory that it illustrates Luke's skill in using his sources, viz., that he uses them in such a way as to "draw decided attention" to a definite meaning for the so-called "great Omission," viz. (p. 201, top), "to give emphatic attention" to the coming death of the Lord "as the great theme" of his Gospel. I object that he failed to secure this end, since it has escaped observation from all his readers until your own notice was, by critical study, directed to it. This is an objection, *not* to there being three such sources used by Luke, and only detected by a scholar in the twentieth century, but to the "skilful" use to which you assume he put them in directing attention to his "definite meaning"—for his use of them, in particular, the so-called "great Omission"—though in vain until recently! Surely these are different things. The "skilful" use was intended to be perceived from the first and all along; and was not, so far as the "definite meaning" for the so-called "Great Omission" goes.

The Rev. F. H. WOODS, M.A., writes that he thinks the most probable explanation of "the great Omission" by St. Luke was his wish to avoid the duplication of incidents which resemble each other. He continues, "I should be inclined to agree so far with Colonel Mackinlay as to admit that one, perhaps the chief, reason why St. Luke did not wish to duplicate was to allow space for all that he wished to write concerning our Lord's Death and Resurrection. I further agree with him also in thinking that we are right in making a break at the end of chapter x, and that the teaching that follows belongs to an earlier period. But his main theory appears to me unproven. It rests mainly on three grounds, no one of which appears sufficiently established."

These grounds are briefly summarized as follows:—

(a) It is improbable that there should be such a "strange literary procedure" as the splitting up of the Matthaean Sermon on the Mount into two parts by Luke, part in chapter v ff., and part in chapter xi ff. In support of this objection he refers to the fact

that a large number of fragments of St. Matthew's sermon are found scattered in other parts of St. Luke's Gospel; *e.g.*, Matthew v, 13, corresponds with Luke xiv, 34; Matthew v, 15, with both Luke viii, 16, and xi, 33.

He considers it more likely that St. Matthew collected in one discourse what he found scattered in different parts of Q.

(b) He thinks that the references in Luke to journeying (which he quotes) refer to a *single* account of one journey, but he admits that parts of it are obviously in the reverse of chronological order. For instance, he thinks that the passage, "I must go on My way, to-day and to-morrow, and the day following" (Luke xiii, 33), shows that Christ was then only two days' journey of slow progress from Jerusalem.

He states that this chronological difficulty is met by the three narrative theory, but he is himself unable to accept the explanation which it gives because "there is not the least hint or suggestion in Luke xiv, 25, that we are reading about the beginning of a journey, the impression left on the reader's mind is that it is the same of which St. Luke has been speaking throughout."

He thinks a simpler explanation is "to suppose that St. Luke had before him a collection of incidents connected with the journey, but not arranged chronologically, that into these he inserted a portion of Q, probably in the order in which he found it, and finally inserted the whole bodily into his revised Marcan document."

(c) He does not see any analogy between a supposed three-fold narrative in Luke and the two thrice repeated narratives in the Acts of the Conversion of St. Paul and of the visit to Cornelius by St. Peter, "Neither of these cases are parallel, because in both cases the first record is the writer's narrative, the other two are records or references of speakers, and there is not the slightest literary difficulty or obscurity involved."

He concludes, "while I feel that I have no right to argue *a priori*, the exact degree of accuracy on such a point as chronological order that inspiration involves, I should personally be very sorry to discover that it permitted the use of a method of composition which, if true of St. Luke, has deceived every reader and commentator up to the present time."

The Rev. H. GAUSSEN, M.A., writes: On reading this very interesting paper the following points struck me, (a) On p. 190 mention

is made of a class of miracles, which might seem to detract from the dignity of Christ. It has to be remembered on the other hand that St. John's Gospel contains accounts of gradual miracles in which means are employed (John ii, 7, ff. ix, 6, ff.). It is evident that the writer of the fourth Gospel does not consider such miracles detracting from the dignity of Christ.

(b) On p. 198 the words about St. Luke's purpose shown by his Omissions as well as by his statements are very interesting. His omission of,

- (1) The flight into Egypt,
- (2) The appearances of Christ after His Resurrection *in Galilee*,
- (3) The retirement of St. Paul into Arabia,

are instances of omissions which may be accounted for on the ground of their being in a sense diversions from the main subject, on account of the change of scene involved.

(c) The same feature in lingering over Our Lords' teaching, "before the narrative of the great tragedy" is found in Matthew xxiv, xxv, and in John xii to xviii.

The Rev. Canon R. B. GIRDLESTONE writes: Colonel Mackinlay deserves all our thanks for his effort to give reverent scientific treatment to the Gospels. I doubt, however, if we have attained a complete solution. Certain first principles are to be remembered.

1. We have only a tiny fraction of what our Lord said and did.
2. He probably often repeated his words and deeds under similar circumstances.
3. St. Luke had special qualifications which he sets forth in his Preface, moreover, he was a trained observer.
4. St. Luke and St. Mark were with St. Paul at the end of Paul's career, and perhaps St. Peter (the true author of Mark's Gospel) was there also.
5. Perhaps the tradition is right that St. Luke was a proselyte, a Syrian and one of the seventy.

At any rate he had his own methods of writing. He hardly ever uses notes of time. There are about twenty places in which the Authorized Version puts "then," where St. Luke uses "but" or "and." He condenses, repeats, groups, and follows the order of *thought*, regardless of time or place. Even such an expression as "after these things" simply means "on a subsequent occasion," and his "next

day" (vii, 11) simply means "later on." Again, his tenses have to be carefully watched, especially the imperfect journeying tenses. The chapters peculiar to St. Luke do not give new teaching but new illustration of the teaching. He leaves his readers to intercept spaces, as in the case of the forty days (chapter xxiv), the treading down (xxi, 24, 25), the mission of the seventy (x, 16, 17), Saul's stay at Damascus (Acts ix, 19). He was in one sense quite *original*, and used many words not found elsewhere, and I think his conception of Christ's Ministry was also original. He always looked forward to the "Receiving up" (ix, 51), just as Christ looked forward to His departure to the Father. What a debt we owe to him! You will see from this note that I have no scientific solution as to "sources," for I think that the personal Christ was the true source.

Sir WILLIAM HERSCHEL, Bt., writes: The idea you put forth is evidently to my mind *vrai semblable*, as a suggestion of what may have been working in St. Luke's mind. But Sir William adds later on, I think Luke found the difficulty of attaining the chronological "order" (at which *of course* such a man did aim), to be insuperable.

The Rev. T. J. THORBURN, M.A., writes: I think your view is—speaking broadly—quite borne out by the inner structure of the Gospel, and moreover is the only scheme I know of that takes away the reproach of confusion in the historical order of events in the narrative. Assuming Luke as the author of both Gospel and Acts, each of them seems to be compiled by a writer with ideas of sequence and arrangement, peculiar, in a sense, to himself, and both are difficult to reconcile with modern notions of history. Your theory of a threefold narrative from various sources, put together on the oriental principle of embodying every account that is to be met with, so that *nothing* may be omitted, and arranging the whole for purely didactic purposes, seems fully to explain the difficulty.

The Rev. T. NICOL, D.D., Professor of Biblical Criticism, University of Aberdeen, writes: It is a very helpful contribution to the discussion of the Synoptic Problem, and the diagram which you have provided enables the reader to take in the situation better than any amount of description. I hope to devote special attention to the questions you have raised and discussed. Meanwhile, my view of your solution is most favourable, and I feel indebted to

you for putting the structure of the third Gospel in such a lucid and instructive way.

The Rev. J. J. B. COLES, M.A., writes : Studies in the Synoptic Problem are at present very superficial. Colonel Mackinlay's suggestions as to a specially arranged order are very helpful, and may lead to a more reverent and a more spiritual grasp of the very deep subject of the inter-relationship of the four Gospels.

The Rev. A. H. F. BOUGHEY, M.A., writes : You put the case forcibly and clearly, and on the whole I fully agree with you. Apart from his inspiration I have an unlimited admiration for St. Luke as a literary genius. He was a born historian. I doubt if St. Luke has any superior in any language as a historian, unless it be Thucydides, whom St. Luke, a trained man of science and literature, probably studied. Some years ago one of the Cambridge teachers wrote an interesting monograph pointing out the *many* and *remarkable* resemblances between St. Luke (in the Acts especially) and Thucydides, both in language and in style. One mark of a great historian is the skilful selection and arranging of his materials, especially with a view to making his readers grasp some important point ; and as you have so ably shown, this is one of the striking merits of St. Luke.

Colonel MACKINLAY in a considered reply writes : I am grateful for the good reception given to this paper, and my thanks are especially due to those who have taken part in the discussion, or written to me on the subject.

It is satisfactory that the term "Insertion" is preferred to "Interpolation" by such a distinguished and careful scholar as Sir John Hawkins, supported as it is by the sound reasons adduced by Mr. Maunder. It is of considerable importance that the most suitable nomenclature should be employed in all investigations which claim to be of an exact nature. It is hoped that in future the term "Insertion" may be employed by all.

Coming to the "Problems" considered in the paper, Mr. Collett contends that they would cease to exist, if for instance it were discovered that St. Mark's were not the first Gospel written. That is what Professor Orr *does* think, and yet he tells us that the Problems exist. They must do so, even if it is thought that each evangelist wrote his Gospel quite independently. Why, for instance, does Luke not tell us any of the events of the last summer

of Christ's ministry, while all the other evangelists give some account of that period? Professor Orr demurs to the aesthetic or artistic reason suggested for the employment of the great Omission (the cloud or shadow, p. 198), but surely sound criticism should take account of the purport of a document. When a picture is painted or a history is written *for a purpose*, stress is always laid by various means on important features, while details, which might divert attention from the main object, are either omitted altogether or lightly indicated. The purpose of this Gospel is given in Luke xxiv, 46.

Mr. Vernon Bartlet objects that, if the reason for the use of the great Omission is to draw decided attention to that which came afterwards, it does not argue skill on the part of the evangelist, as this reason has hitherto escaped observation. Mr. Bartlet adds that the skilful use should be perceived from the beginning and all along. We must remember that authors write for people of their own times, though the sacred ones also wrote for posterity, among whom they have had the majority of their readers. But even the sacred authors employed the literary methods of their day and they referred at times, incidentally, without explanation, to facts well known to their first readers, which became more or less hidden from succeeding generations.

Let us try to imagine the conditions of St. Luke's first readers. The ancient Greek was perceptive, and doubtless the Greek speaking peoples of other lands had imbibed something of his character in this respect, as well as his language. Those interested in the Christian religion, when Luke's Gospel was written, had probably access to some who had actually seen our Lord, and to many written accounts of His life; thus the order of the main events in His Ministry must have been well known to them by word of mouth, and also from writings. They were also familiar with the Scriptural employment of triple repetition to denote intensity or emphasis, as at the Temptation, by the denials of Peter, and by the three questions afterwards put to that Apostle by the Lord. Is it not reasonable, therefore, to suppose that a contemporaneous intelligent Greek speaking convert under these circumstances should readily recognize the threefold narrative in the Gospel of Luke?

But as time went on the intimate oral knowledge of the events of Christ's ministry passed away with the passing away of the first few

generations, and there remained only the written documents. Then came the Dark Ages, and subsequent translations of the New Testament into modern European languages. Is it wonderful that the Gospel of Luke then came to be regarded as a chronological tangle, instead of a well ordered record pointing emphatically to the Death and Resurrection of the Lord? With the revival of learning the Greek of the New Testament has been well studied with regard to grammar and textual criticism, especially during the past few years; but is it not possible that we may still have something to find out about the general arrangement and purport of the Gospel of St. Luke? Bearing the foregoing considerations in mind Mr. Wood's assumption, if the threefold narrative plan has really been adopted by St. Luke, that *every* reader has been deceived, seems to be too sweeping; as there is good reason to suppose that the first readers must have thoroughly understood the threefold arrangement and its intention.

Dr. Irving proposes a solution of the problems of the Insertions and of the great Omission by suggesting that, as Luke made *additions* to the Marcan narrative, so he omitted from his own history much which was to be found well recorded by Mark. But these questions still remain: as Luke omitted some parts recorded by Mark, why do about two-thirds of his Gospel closely correspond with the record of the second evangelist? And why is this verbal correspondence concentrated in some chapters of Luke, and entirely absent from others?

Mr. Gaussen's suggestions for the reasons which Luke had for the omission of all record of certain important events in his Gospel and in the Acts, are worthy of careful consideration.

Let us now consider the criticisms in the discussion of the suggestion of a threefold narrative in the Gospel of St. Luke.

Mr. Woods upholds the view (popular among many scholars), that the sentences of the so-called Sermon on the Mount in Matthew were not all spoken at one time, but the evangelist grouped or arranged them without much regard to chronology from sayings found in Q. It is difficult to see how this can be proved. The surmise may probably be chiefly based on the following considerations, if the ordinary view of the construction of St. Luke's Gospel is accepted. The sermon consists of 111 verses, 72 of these reappear in Luke slightly modified or abbreviated. In the

latter Gospel about half (or 50 per cent.) of these sayings of the Lord are recorded as delivered at the same time as that implied by St. Matthew, but Luke places the other half at later dates; hence it would appear to be difficult to say when all the sentences recorded in Matthew v, vi, and vii were actually delivered, as there thus seems to be considerable chronological divergence between Matthew and Luke. But if the threefold narrative is accepted and also the "strange literary procedure" by Luke of splitting up the Matthaean sermon—one part being contained in Luke (A) (vi, 1-49) and the other in Luke (B) (xi, 1-xii, 59)—it will be found that about 86 per cent. of the sayings recorded in the Matthaean sermon (which are reproduced in Luke) agree chronologically with the records of the first evangelist. Luke consequently only records 14 per cent. of his extracts from the Matthaean sermon as spoken at later dates—a much less chronological discrepancy than under the ordinary assumption of one continuous narrative in the third Gospel. Mr. Woods himself admits that the teachings given in Luke xi indicate a retrogression in point of time. It is usually admitted that our Lord gave a distinctive teaching at the early part of His Ministry, while different truths were propounded by Him at the end; other teachings, however, may well have been common to several periods, and our Lord doubtless repeated many of His sayings, hence we have a good reason for the 14 per cent. of sayings which are recorded by Matthew and by Luke as given at different times, without having much recourse (if any) to a supposed "grouping" or "arranging" by Matthew. In his two accounts, which each contain parts of the Matthaean sermon, Luke (vi, xi and xii) adds other sayings, many of which are recorded by Matthew (viii-xii) as spoken during the same summer, but this fact does not affect the argument which we have just considered. Mr. Woods further thinks that all the notes of travel contained in the middle chapters of Luke refer to only one account of one journey. Mr. Challis points out the chronological contradictions which such a supposition involves. Although Mr. Woods allows that his theory involves this discrepancy, he nevertheless holds to it, because he objects to the threefold narrative explanation, that there is not the least hint or suggestion in Luke xiv, 25, that we are reading about the beginning of a journey. He misunderstands; no such claim has been made in the paper. The *beginning of the*



*journey* in Luke (C) is stated in the diagram and elsewhere in the paper to be narrated in Luke xvii, 11. Whereas Luke xiv, 25, gives the *beginning of Luke (C) narrative*—a very different thing. He also objects that the impression left on the reader's mind is that Luke xiv, 24, 25, is continuous—there is nothing to indicate a chronological break between the two verses. This objection has been anticipated on pp. 193, 194 and 201, of the paper, where it is pointed out that Luke had a habit of frequently not indicating fresh beginnings, but he left his readers to infer when they occurred. Mr. Woods fails to see an analogy between the thrice repeated narratives of St. Paul's conversion and St. Peter's visit to Cornelius—and a supposed threefold narrative in the Gospel of Luke, because he states that in the repetitions in the Acts not the slightest literary difficulty is involved. It may be questioned if such repetitions as those referred to in the Acts are usual among authors; most historians would surely prefer to give but one full narrative of each incident, with perhaps subsequent incidental allusions, and they would thus save space which they would use for recording other events. It is of course granted that the threefold method of repetition adopted by Luke in the above cases in Acts is not exactly *the same* as the arrangement of the suggested threefold narrative in the Gospel; Luke had a beautiful variety in his methods of threefold narrative in order to give emphasis, and some of them demand a little searching in order to be recognized, as is briefly indicated in the second note on p. 195 of the paper.

Mr. Rouse's argument that the request by Christ's disciples to be taught how to pray, Luke xi, 1, indicates an *early* period in Christ's ministry appears to be unanswerable, and it is a strong argument in favour of a second or repeated narrative.

Mr. Rouse is correct in saying that the lament and the parable of the Great Supper in Luke could not have been spoken at the same time as the same lament and the similar parable of the marriage of the King's son in Matthew, because he has shown that the Lucan utterances were *before* Christ's entry into Jerusalem on the colt, and the Matthaean utterances were both *after* it. But I think it can be shown that the lament and parable in each Gospel must have been spoken within a few days of each other, though probably to different audiences. Not unfrequently we find the same subject discussed in the Gospels at different places, but at consecutive, or nearly

consecutive, times. Thus our Lord fed the five thousand, and on the next day at a different place spoke of Himself as the Bread of Life (John vi, 5-14, 22, 48); the teaching of the first being last and the last first was put forward on the last journey (Matt. xix, 30, xx, 16), and again shortly afterwards in Jerusalem (Matt. xxi, 31, 32). The teaching of the lament and also of the parable of the great Supper in Luke refers in both cases to the coming severe judgment on the Jews—a subject which elsewhere in the Gospels we find confined to the teaching of the Saviour at the very end of His Ministry; hence it is fair to conclude that these Lucan utterances were also spoken towards the end—not at the time of the Sermon on the Mount as Mr. Rouse suggests.

It is interesting to note that the verse "I must go my way to-day, and to-morrow, and the day following," Luke xiii, 33, is interpreted by Mr. Woods (who denies any repetition of narrative) to refer to *days*, and he thinks it was spoken within about two days' journey of Jerusalem, while Mr. Rouse thinks the *days* mean *years*, and he concludes that the words were spoken at a more distant spot. The nearest part of Herod's trans-Jordanic dominions, where our Lord most probably was when these words were uttered, is only some twenty miles distant in a direct line, though 3,700 feet below that city, hence a couple of days would probably suffice for the journey. Alford favours the interpretation of literal *days*, but the passage is a difficult one, and as commentators are not agreed as to its exact meaning, it seems hardly wise at present to base any theory of chronology upon it.

Mr. Rouse adduces the fact that in a later chapter, Luke xvii, 11, it is recorded that our Lord passed between Samaria and Galilee, as a proof that the Lucan lament and parable were not spoken near the end of the Ministry, but is not this rather a begging of the question? If it is allowed that the Lucan lament and parable were spoken towards the end of the Ministry, and that a third narrative begins at Luke xiv, 25, the passing between Samaria and Galilee comes correctly in due chronological order in the third narrative.

If Canon Girdlestone's statements can be substantiated, that St. Luke "hardly ever uses notes of time," that he "groups, follows the order of thought regardless of time and space," then the arguments for a threefold narrative rest upon such slender

foundations that they are worthless. But can these things correctly be said of the evangelist who gives two very distinct dates, by referring to well known secular events—the “decree from Cæsar Augustus that all the world should be enrolled” (Luke ii, 1), and “the fifteenth year of the reign of Tiberius Cæsar” (chapter iii, 1), after the manner of the historians of his day? Luke also gives a Jewish dating for the vision of Zacharias (i, 5, 8, 11), because it is known from Jewish records when the course of Abia served in the Temple. St. Luke also tells us that our Lord came to the Temple at the age of twelve (ii, 42), and that He began His Ministry when He was about thirty years of age (iii, 23). The fulfilment of periods of time (i, 57, ii, 6, 43, xxi, 24), also of years (ii, 37, iv, 25), months (i, 24, 26, 56), days (i, 59, ii, 21, 22, 44, iv, 2, xxii, 7, etc.), and hours (xxii, 14, xxiii, 44, xxiv, 33), are each referred to repeatedly. The near approach of summer is also pointedly alluded to (xxi, 30). In the central chapter of Luke, with which we are now especially concerned, we find attention directed to the near approach of the time (ix, 51) when our Lord should be delivered up. Various periods are stated in years (viii, 42, 43, xiii, 7, 11) and others in days (ix, 28, 37, x, 35, xiii, 32, 33). In one place (vi, 1) the time of year is plainly shown to be that of harvest, and in another, the Sabbath year then present is clearly indicated by the reference to the fulfilment of one of its obligations (*cf.* xi, 4, with Deut. xv, 1, 2). Sir Isaac Newton noticed that Christ referred in His parabolic teaching to things actually present, for instance, to the lilies of the field (xii, 27), indicating that it was the summer. Archbishop Trench has suggested that sowing was actually in progress when the parable of the sower was delivered; thus we have winter indicated at a certain part of Luke (A) (viii, 4–15), and also at a place in Luke (B) (xiii, 18, 19). There are also several other indirect allusions to the season of the year in Luke’s Gospel, but we have not space to refer to them; they all harmonise chronologically with the threefold narrative theory. Another chronological indication is furnished by the teaching of the Lord,—it was only after the Transfiguration, during the last six months of the Ministry, that the clearest indications were given of the offer of salvation to the Gentiles; consistently with this fact we find references to their acceptance at the end of Luke (A) (x, 33, 36, 37); of Luke (B)

(xiii, 28-30, xiv, 23, 24) and of Luke (C) (xvii, 16, xx, 15, 16). Which of the other evangelists gives so much chronological information? Luke, too, is the only evangelist who definitely states that he writes "in order," not necessarily in an ordinary chronological arrangement, but in an ordered arrangement of some sort. All will agree with Canon Girdlestone in his statement that Luke "had his own methods of writing," but up to the present time the method of arrangement of his central chapters has been a great puzzle to most; some assert that these chapters demonstrate an order of thought or teaching, but what the special teaching may be has not been set forth and generally recognized. If, however, the threefold narrative scheme is accepted, we find a distinctively prominent spiritual teaching in each narrative\* as recognized by Mr. Challis in the discussion, and by Canon Dodson in the *Record* of 4th August, 1911.

Dr. Irving thinks the fact has been lost sight of in the paper that the Gospel of Luke and the Acts are two volumes of one continued history. I quite agree that the two are closely linked together, but the Gospel was written first, and it is a separate treatise (Acts i, 1), culminating not only with the Crucifixion, but also with the Resurrection and Ascension. The paper is confined to Problems in the Gospel, and considerations of space prevented reference to other subjects.

Sir William Herschel thinks that Luke of course aimed at chronological order, but found the difficulties to be insuperable. If this be so, it is very difficult to understand the Evangelist's opening words that he had "traced the course of all things accurately from the first," and that he wrote "in order" (Luke i, 3).

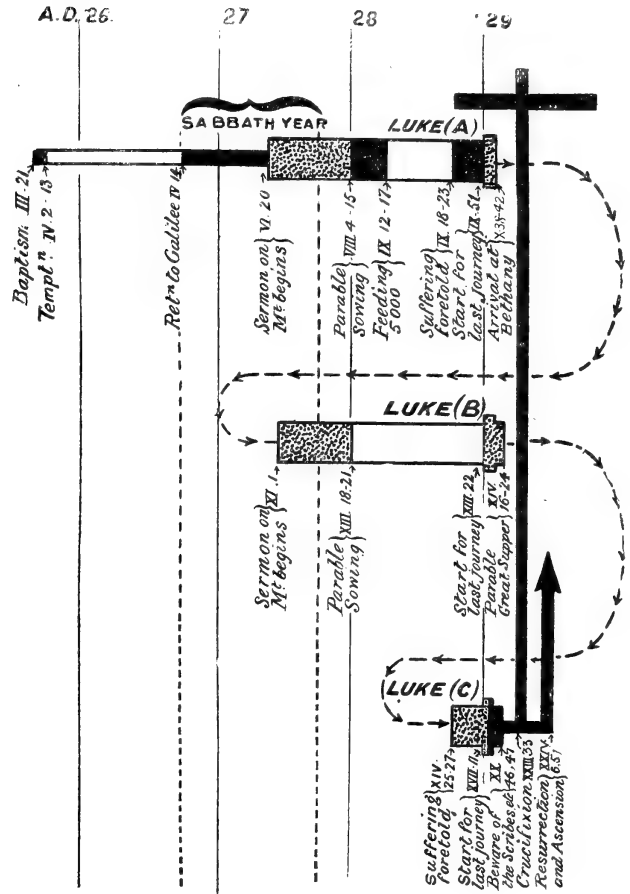
The remarks of Mr. Challis, Revs. Thorburn, Nicol, Coles, and Boughey are all in agreement with the paper and call for no remark except hearty thanks for the encouragement they have given. †

---

\* See *St. Luke's Threefold Narrative*, etc., pp. 15, 17, 19.

† There are still a few reprints of the article, "St. Luke's Threefold Narrative of Christ's Last Journey to Jerusalem," from *The Interpreter*, of April, 1911; should any Member or Associate of the Victoria Institute wish to read one, the Secretary will gladly supply him with a copy, *on loan*, on application.

Diagram of the Three parallel Narratives  
in St. Luke's Gospel.



FOR EXPLANATION SEE PP. 192-197.



530TH ORDINARY GENERAL MEETING.

MONDAY, APRIL 1st, 1912, AT 4.30 P.M.

E. J. SEWELL, ESQ., TOOK THE CHAIR.

The Minutes of the previous Meeting were read and confirmed.

The SECRETARY announced that Miss Morier had been elected as an Associate.

The CHAIRMAN then called upon Mr. TUCKWELL to read his paper.

---

*ARCHÆOLOGY AND MODERN BIBLICAL SCHOLARSHIP.*

By the REV. JOHN TUCKWELL, M.R.A.S.

**M**ODERN Biblical scholarship is a development. By a brief glance at its origin we shall the better understand its relation to modern archæological discoveries.

During the first three hundred years of the history of the Christian Church the progress of the truth with which she was entrusted was phenomenal. But the next thousand years, and especially that part of it which followed immediately the breaking up of the Roman Empire, was a time of almost universal arrest of human progress. The ignorance and degradation of the populations of Europe rendered them powerless to civilize the barbarians who brought them under their martial sway. "These were times," says Hallam in his *Middle Ages*, "of great misery to the people, and the worst, perhaps, that Europe has ever known. Even under Charlemagne we have abundant proofs of the calamities which the people suffered. The light that shone around him was that of a consuming fire."

The first gleam of a new dawn was due to an awakening of interest in classical learning. Manuscripts began to be collected and libraries to be formed, while the opportune invention of paper rendered books cheaper, and quickened and extended the

book trade. It was only incidental to this general movement, at first, that attention began to be directed to the contents of Holy Scripture. Then in the fifteenth century came the invention of printing.

It has often been affirmed as an apology for certain modern views of Scripture that, at the Reformation, men discovered that the Church's claim to infallibility was invalid, but feeling the need of some infallible basis on which to ground their faith, invented the theory of an infallible Book. Was this so? Was it not rather the rediscovery of the Book which gave militant effect to the intellectual and moral shock which mankind was beginning to experience at the Church's condition and claims? It was the use of a manuscript copy of the Scriptures that shed the light upon the mind of John Wycliffe—"the morning star of the Reformation." It was the publication of the Greek text of the New Testament and his scholarly Latin translation and their circulation in the universities and among the learned and noble that caused it to be said that "Erasmus laid the egg which Luther hatched." It was the perusal of the New Testament which first set free and then set on fire the great prophetic soul of Martin Luther. It was with the Book in their hands, as the final Court of Appeal, that the Reformers fought and won their battles, and whatever value they attached to it as the standard of Christian Truth they attached to it from the very beginning. Nothing, therefore, could be more remote from the true history of the conflict than the supposition that the degree of inspiration the Reformers attached to it, whether they were right or wrong, was an afterthought.

What happened was this. After the Reformation, when freedom of thought and speech could no longer be suppressed, the contestants over the subject of supernatural religion came from all sides into the arena. Lecky, in his *History of Rationalism*, writing of "the moral chaos that followed the death of Louis XIV.," says of Voltaire and Rousseau that "the object of these writers was not to erect a new system of positive religion, but rather to remove those systems which then existed and to prove the adequacy of natural religion to the moral wants of mankind. The first of these tasks was undertaken especially by Voltaire. The second was more congenial to the mind of Rousseau." The Christian apologist had to face this new condition of things, and in Germany, as Canon Cheyne admits in his *Founders of Old Testament Criticism*, a party arose under the influence of eighteenth-century Deism which adopted that



method of treating scripture which Eichhorn, one of its earliest advocates, called the "Higher Criticism." The term in a narrower sense is sometimes used in contradistinction to the term "lower" or "textual criticism." It would be a mistake to suppose, however, that even in its wider sense it represents a form of scholarship or spheres of investigation entirely new. The older scholarship included in its enquiries such subjects as the authorship, the languages, the human element, the diversities of style, the uses of metaphors, parables, similes, and various other figurative forms of speech found in Scripture. It welcomed all the light it could obtain from comparative philology, from such science as was available and from all known history. It is not here that any difference exists. Much more light has come in modern times both to and from some of these sources, and this light has compelled the opponents of supernatural religion to change their polemical tactics. Such a work as Volney's *Ruins of Empires*, thought to be brilliant and triumphant in its own time, would be as out of date now as the bows and arrows of the ancient Babylonians. It is in those particulars, in which the German theologians have made compromises with the older Deism, that the divergence has arisen, and it is to mark that divergence that the term "higher criticism" is generally employed. Among these particulars may be included the attitude of mind in which the study of Scripture is approached; the too exclusively philological and literary basis of enquiry into the origin and composition of its various books; the excessive application of subjective tests in judgment of the value and trustworthiness of the records; the adhesion to obsolete ideas concerning the beginnings of human and of Israelitish history; the substitution of hypothetical evolutionary processes for inspiration and revelation in dealing with the contents and order of the historical records; the too hasty rejection of the historicity and truthfulness of those records and the general discredit cast upon the supernatural element in the whole volume and the consequent weakening of its Divine authority. It will not be possible in this brief paper to deal adequately with all these particulars, I shall confine myself for the most part to those of them upon which the modern discoveries of Archæology have a special message to convey.

Upon the general question of the relation of this method of dealing with Scripture to the older Deism, I shall not, I hope, be accused of making a partisan appeal to prejudice if in justification of Canon Cheyne's admission and my own contention I refer to the "Twentieth Century" Edition of *The Age of Reason*.

The editor of that edition points out that in Tom Paine's denunciation of the Jewish wars; his denial of the Mosaic authorship of the Pentateuch; his rejection of the Davidic authorship attributed to so large a number of the Psalms; his assertion of the composite character of the book of Isaiah; his views of the Virgin Birth predicted in the Old Testament and recorded as a fact in the New; and the discredit he casts upon the authorship of Gospels and Epistles, he anticipated the views held by many German and English divines of the present day. The same thing is also shown by the late Dr. Parker in his remarkable little book entitled *None Like It*. He says, "It must be clearly understood that the name of Tom Paine was not introduced by me, but by Mr. H——; and it must be further understood that I quote it to prove one point only, namely, that Paine anticipated in substance the main contentions in literary criticism of the Higher Critics, and it can be further proved that Paine himself, so far as this point is concerned, was only an echo of a much older Deism. All this should be remembered when considering the supposed originality of recent writers" (p. 216). Now a statement would not be untrue because Paine made it, and I offer these quotations in confirmation of the view expressed concerning the historic relationship between the present and the past.

My purpose in this paper is to present in as concise a form as possible some of the best-known results of modern archaeological research, and to claim for them a fuller recognition and a larger place in the Biblical scholarship of the day, however it may have arisen. The justice of this claim is forcibly represented by Professor Eerdmanns who, himself, formerly accepted the conclusions of the Higher Critical school and still occupies the professorial chair at Leyden in succession to the celebrated higher critical scholar Kuenen. He says: "The time in which the now dominating school of criticism arose was prior to the many discoveries made in Assyria, Babylonia, Egypt and Syria . . . The theory of evolution was then prevailing in science and philosophy, and its influence was doubtless felt in critical and historical studies on Old Testament subjects . . . The many contradictions which even the ordinary careful reader of the Bible was often able to discover gave the ardent scholar the means for constructing a new building out of the scattered pieces of Hebrew literature. In erecting this building, scholars did not always see the great difficulties of their position and the traps that were to be avoided."

At the time to which Professor Eerdmanns refers Dr. Young

and Champollion were just beginning to unravel the intricacies of the Egyptian hieroglyphics ; Niebuhr, Tychsen, and Grotfend were making their first imperfect efforts to decipher the cuneiform inscriptions of Persia ; while Rich, Botta, and Layard had hardly begun to reveal beneath the mounds of Babylonia and Assyria those rich stores of historical knowledge which were destined to revolutionize our conceptions of the civilizations of the past. These stores are so vast and their testimony so incontrovertible that we are justified in saying that Archæology has shown that—

### I.

The practice of literature existed at a much earlier period than modern Biblical scholarship at first supposed. The supposition was, that except perhaps within the colleges of the Egyptian priesthood and in a few incoherent scratchings upon rocks, human knowledge was generally communicated from generation to generation by unwritten tradition, folklore and the songs of wandering bards.

Canon Driver says : “ The date at which an event or institution is first mentioned in writing must not be confused with that at which it occurred or originated : *in the early stages of a nation's history the memory of the past is preserved habitually by oral tradition ; and the Jews, long after they were possessed of a literature, were still apt to depend much upon tradition* ” (p. 118). The first part of this statement needs qualification, and the second is the rock upon which the “ Higher Criticism ” splits. Even the elegance, power, and precise descriptions of the Iliad and Odyssey were attributed to a blind bard who could not write. As late as 1884 the Revisers of the Old Testament changed the perfectly accurate translation of Judges v, 14, in the *Song of Deborah and Barak*, “ out of Zebulon they that handle the pen of the writer,” into “ they that handle the marshal's staff.” Thus a number of the accredited authors of Scripture have been substituted by a countless array of unknown writers of later date whose discovery, had it been true, would have been a more astonishing display of the acuteness of the human intellect than the discovery of the Röntgen rays, or of radium, or even of the infinitesimal electrons that are supposed to operate in the invisible electric current. The products of the pens of these hypothetical authors and redacteurs are represented by such symbols as J, J<sup>1</sup>, J<sup>2</sup>, E, E<sup>1</sup>, E<sup>2</sup>, JE, P, D, D<sup>1</sup>, D<sup>2</sup>, D<sup>3</sup>, etc., R, R<sup>D</sup>, R<sup>J<sup>E</sup></sup>, JED, etc., etc.

This amazing analysis, to quote Professor Eerdmanns again, “ leads to highly improbable results. Words ; half verses,

quarters, eighth and sixteenth parts of verses, belonging to different sources, are combined in the most various ways. . . . By the acuteness of scholars, contradictions and parallels are discovered in chapters and verses of the most harmless and harmonious appearance." The hypnotic influence which this analysis has had over certain scholars is extraordinary, and even Professor Orr can say concerning the Yaweh-Elohim theory, "This result also, whatever explanation may be offered, has stood the test of time, and will not, we believe, be overturned." If that be so, his case against the Higher Criticism is gone, and even our Lord took up a fallacious position when He said of the supposed Mosaic writings: "If ye believe not his writings, how shall ye believe My words?" for in all the letters used in the analysis of those writings the letter "M" never once appears for a single verse or word. All that Professor Orr will allow is some quality which he describes as "Mosaicity." But it is not a question of "time" but of evidence, and evidence has become available now, which was not available when the foundations of this analysis were laid by Jean Astruc with his theory of Elohist and Jehovistic and nine minor documents. For instance, we now know that the art of writing goes back to very remote antiquity in the history of man, for even the cuneiform characters of Babylonia were the offspring of an earlier pictographic form of writing in use before the adoption of clay as a writing material by the early inhabitants of the plain of Shinar. Further,

(i) By what seems like a perversity designed to provoke every sense of the fitness of things in the order of Biblical truth, the story of the Creation in Gen. i, so fundamental to the monotheism of the whole Bible, is affirmed to be among the latest products of Hebrew literature! It is said to belong "approximately to the period of the Babylonian captivity" and to be "later than Ezekiel" (Driver). We are to suppose that the Hebrew religion and nation existed for a thousand years before it possessed any adequate cosmology! Or again, it is said to have been derived from a Babylonian original, and an eminent Assyriologist has even attempted, by translating some of the Hebrew into Babylonian, to reconstruct that supposed original! But the two languages are sufficiently near of kin to make such an effort absolutely devoid of evidential value. Were the original Greek of the New Testament to be lost, an accomplished German and English scholar in five thousand years' time, finding the first page of one of the Gospels in English, would have no difficulty in turning the English into German and proving most conclusively

to his contemporaries that the English derived the story from their very intellectual German neighbours. Or again, it is even said that the Genesis record is sifted out of the Babylonian legend.

But if we are right, as seems almost certain, in identifying Marduk with Nimrod, then that legend must be later than the fact recorded of him in Gen. x, that "the beginning of his kingdom was Babel, Erech, Akkad and Calneh." Further, the deified Nimrod, Marduk, only takes the supreme place in the Babylonian pantheon in succession to Enlil of Nippur (Calneh) as the natural corollary to the rise of Babylon to the imperial sovereignty over the other cities of Babylonia under "The First Dynasty of Babylon." The legend, therefore, cannot be earlier than about 1900 B.C. Yet, further, Mr. Maunder, in his *Astronomy of the Bible*, tells us that the astronomical allusions in it to the Signs of the Zodiac forbid that it should have appeared in its latest form earlier than about 700 B.C. This does not mean that the legend was first constructed then, for there is a part of what may be a version of an earlier date contained in a bi-lingual tablet, and which appears to have been used as an incantation formula. But it is anachronistic, unmethodical, and incoherent. One of these languages is Sumerian, and contains the words "Adam" and "Eden"; the other is a Semitic translation. But the priority of the Hebrew story to these and all other versions is plainly implied by a comparison of their contents. It would be superfluous to recapitulate the well-known version of the seven, or more correctly six, tablets. But it is necessary to notice that the four first are occupied with the account of the destruction by Marduk of the old goddess Tiamat, the goddess of the stormy deep, whose body he splits into two parts, "like a flat-fish," one part being used to support the upper waters, while watchmen are placed to see that they do not break forth again.

Now when a legend is formed on the basis of a fact or truth, it is manifest that the fact or truth must be known before the legend can be compiled. The fact underlying the contents of these four tablets is the creation of the "firmament" to "divide the waters from the waters," which is related with such beautiful simplicity, dignity, and brevity in the Hebrew story. The conclusion, therefore, is irresistible that the Hebrew story, whoever wrote it and wherever it came from, must have been known to the old Babylonian poets, who elaborated it into their grotesque legend. Of the fifth tablet we have only some twenty or thirty complete lines assigning to Marduk the work of fixing

the Signs of the Zodiac, causing the moon to shine by night and establishing a lunar year of twelve months. It is this tablet, with its allusion to the Zodiac, which suggests to Mr. Maunder the date of 700 B.C. Of the sixth tablet we have only about a dozen complete lines, which appear to refer to the creation of man by Marduk out of his own blood, and perhaps to the creation of woman also. The number, variety, and importance of the works recorded upon the tablets represented by these two fragments were out of all proportion to the single creative task described on the other four. It would not be at all surprising, therefore, were we to find that their contents were an adaptation of some older version tacked on to the other four to complete the story.

In contrast with all this, the Hebrew story is so pure, so lofty, so impressive, and thrown into such language, as to teach the unity, sovereignty, goodness and omnipotence of God to every age and in every tongue, and to minds of every degree of culture and knowledge. It seems an outrage upon our reason and our moral sensibilities to ask us to regard it as derived from a composition so impossible, so grotesque, and so degrading to the Deity as the Babylonian legend. "Who can bring a clean thing out of an unclean? Not one." We are driven to the conclusion, therefore, that the Genesis account cannot be of such recent date as modern Biblical scholarship has supposed. It may be but a fragment (if you will), but it is literature of great antiquity, conveying to man, from some superhuman source, a knowledge of events which transpired before his own existence, intended to win his obedience, worship, and love, to the One Author of his being, the Creator of the Universe.

(ii) Let us pass now to the second and more detailed version of man's creation, and the account of the creation of woman, and the institution of marriage, in Genesis ii. It is very significant that there should be these two versions, and that there should have been two or more versions of the creation legend among the Babylonians. But if the Biblical record be true, it may suffice to say that this ampler version, like the more general, must have got there by some means other than derivation from the Babylonian legends or than mere happy guess-work. Men and women of past ages were as little likely to have been able to give an account of their own creation as an adult person to-day to give an account of his own birth.

Let us add to this the story of "The Fall"; whether we regard it as symbolical or literal, or partly both, is immaterial to

our present purpose. The well-known Babylonian seal, which cannot be of later date than 2500–2000 B.C., representing a man and a woman and a tree bearing fruit and a serpent behind the woman, presents a combination of details which irresistibly points to the conclusion that the engraver was familiar with some such story as that in Genesis iii.

The contents of both these chapters are assigned by the critics to the "J" document. But no adequate attempt is made to account for their origin or for their preservation during so many thousands of years. It is not enough to say that "J" committed to writing a previous oral tradition, whether amongst Hebrews or Babylonians. If they contain truth, however veiled, oral tradition cannot account for man's knowledge of that truth or of the events concerning his own existence, which transpired before the dawn of his own consciousness. Moreover, oral tradition is scarcely likely to have preserved in any form a faithful account of what our translators have not inaptly described as "man's shameful fall." The only reasonable way out of these difficulties is to admit the supernatural and to regard the original records, in whatever language composed, as literature of far greater antiquity than modern Biblical scholarship has been disposed to admit.

(iii) Let us now look for a moment at the story of Cain and Abel. Like the two previous stories, the New Testament puts its imprimatur upon its historicity (Heb. iii, 4), and modern Biblical criticism assigns it to the "J" document. It is true we do not find its exact parallel in any of the legends of antiquity, but what appear to be different forms of one original story are found among different nations, looking much like a legendary superstructure upon the Cain and Abel basis. It is that of—

Dumuzi and Innana among the Sumerians.

Tammuz and Ishtar among the Semites.

Osiris and Isis among the Egyptians.

Adonis and Aphrodite, or Venus, among the Greeks and  
Latins.

The subject of the story dies a violent death; in one instance he is a shepherd, and it is his brother who strikes the blow; or it is supposed to have been transformed into a meteorological myth and the summer is destroyed by the winter and reappears to bring joy to earth again. In the sixth tablet of the Gilgamesh series it is the youthful husband of the goddess Ishtar who has come to a premature end, and growing out of it

is the story of Ishtar's Descent into Hades for the recovery of her youthful spouse, which the Babylonians commemorated by an annual festival. This festival was among the "abominations" denounced by the prophet Ezekiel (ch. viii, 14). The first part of it was kept by bitter wailing and lamentation over the tragic death of Tammuz, then on the last day his return to the land of the living, anointed with oil and clad in a new garment, was celebrated by unbounded expressions of joy when all moral restraints were loosened and unbridled licentiousness prevailed. Ishtar was also the pre-Israelite Astarte of the Canaanites, whose worship was celebrated by the sacrifice of infants, as excavations by Professor Macalister at Gezer have disclosed, and by the obscene rites of the grove, or Asherah, denounced so often in the Old Testament.

Once more then it must be said that known truth must precede the possibility of any legendary embodiment of it, and if the story of Cain and Abel be the basis of these legends then we have in it another proof of the great antiquity of the practice of literature which modern Biblical scholarship has been so slow to recognize.

(iv) But what I venture to think is the most conclusive proof afforded by all these old Biblical records of their priority over all other records in whatever language preserved, is that furnished by the parallel accounts of the Hebrews and Babylonians of the story of the Deluge. It is no longer possible to deny it as an historical fact, nor to treat it as an astronomical or meteorological myth. Mr. Maunder, in the volume already referred to, has also given us good reason for believing that it must have been known to the astronomers who pictured for themselves upon the midnight sky the figures of the constellations, 2700 B.C. or earlier. These figures are not suggested by the natural arrangement of the stars, as Volney and many other advocates of solar-myth theories have supposed, but are arbitrarily assigned to the stellar universe. But whoever did this extraordinary work so long ago, the Babylonians accepted it. There are the ship, the water-snake, the raven, the mountains, the altar, the sacrifice and the man. I have by my side a cutting from *The Daily Telegraph* of December 4th, 1872, containing the report of Mr. George Smith reading before the Society of Biblical Archæology the first translation of the Deluge Tablet ever given to the world. Sir Henry Rawlinson was in the Chair, and Mr. W. E. Gladstone, who was present, uttered these memorable words, "I do not know whether it is supposed that the enquiries of archæological or other sciences are



to have the effect of unsettling many minds in this our generation, but I must say for myself that on every point at which I am enabled to examine them, they have a totally different effect (cheers)." May I humbly say that it is with exactly the same experience that this paper is written. Modern critics analyze the story into "J" and "E" documents, which some unknown redacteur combined into a single whole about the eighth century B.C. As separate documents they are supposed to have existed a century or two earlier. The following analysis of the Hebrew story is taken from Canon Driver's *Introduction*. From the parallel column in which I have placed the Assyro-Babylonian story, it will be seen that the supposed "J" and "E" elements of the one appear to a remarkable degree in the same order of succession as in the other.

<i>Hebrew Story.</i>			<i>Cuneiform Story.</i>		
J	Chapter VI.	1-8			
E	" "	9-13	Col. I.	14-19	... The gods.
	" "	14-22	"	20 to II 9	... Build a Ship.
J	" VII.	1-5			
E	" "	6			
J	" "	7-10	Col. II.	22-31	Collecting Cargo.
E	" "	11			
J	" "	12			
E	" "	13-16a	"	32-34a	Entering Ship.
J	" "	16b-17	"	34b-36	Beginning of Storm.
E	" "	18-21	"	34-47	... The Storm.
J	" "	22-23	Col. III.	1-17	Destruction of Life.
E	" "	24	"	18-19	Duration of Storm.
E	" VIII.	1-2a	"	20-22a	Abating of Storm.
J	" "	2b-3a	"	22b	... End of Storm.
E	" "	3b-5	"	23-34	Mountain of Nizir.
J	" "	6-12	"	35-41	Dove, &c., sent out.
E	" "	13a			
J	" "	13b			
E	" "	14-19	"	42a	... Leaving Ship.
J	" "	20-22	"	42b-47	... The Offerings.
E	" IX.	1-17	Col. IV.	1-35	... The Oath.

How are we to account for the "J" and "E" elements of the

Hebrew story appearing in so close an approximation to the same order in the Babylonian? If, according to the commonly held critical theory, the Genesis story was derived from the Babylonian, then two theories more are necessary to complete the explanation. First, that two Hebrew writers split up the Babylonian story, each leaving out parts essential to its completeness, which the other selected, and one using the name "Yaweh" and the other the name "Elohim" to designate the Deity. Second, that a redacteur of a later period found these two bi-sections and spliced them together again in almost the same as their original Babylonian form. Can we be reasonably expected to prefer such an anomalous congeries of theories as this to the simple and obvious one that in the Hebrew and Babylonian records we have two versions of one original event, the former, simple, credible, and true, and the latter, distorted, perverted, and heathenized, coloured by the customs and prejudices, and debased by the false religious conceptions, of the channel through which it flowed?

But, further, there is in the Pierpont Morgan Library of New York a fragment of a tablet containing this story dated in the reign of Ammi-zaduga of "The First Dynasty of Babylon," some eighteen hundred years before Christ. Dr. Pinches also, in a paper read before this Institute last year upon a fragment discovered at Nippur and now in the Philadelphia Museum, U.S.A., possibly the oldest fragment in existence, called our attention to the fact that although its contents consist mainly of the so-called "E" (P) element, yet it contains a reference to the birds which are supposed to belong to "J."

With all this evidence before us, what reason can there be except the persistent adhesion to an arbitrary literary hypothesis for supposing that the Hebrews, with a Babylonian parentage and with the starry heavens whispering it to them night by night, had no consistent and coherent story of the Deluge until two thousand years later? Surely, if modern Biblical scholarship is to maintain its claim to the possession of a scientific spirit, it must condescend, either to rebut this evidence or frankly to say, with Professor Eerdmanns, concerning its late dates and composite hypotheses, "I believed so myself for many years, but I no longer hold that opinion."

## II.

Another part of the message which Archæology has to convey to modern Biblical scholarship is that the early history of man, as it has come down to us, can no longer be treated as mythical.

It is not probable that the discoveries of the archæologist carry us back into antediluvian times, though it is not improbable that the break which the geologist finds between palæolithic and neolithic man may enable us to locate it in the history of the race. But Archæology has certainly dispelled the illusion that the traditional belie'cs of every nation concerning its origin and early history are untrue or even untrustworthy. It is forty years since this illusion received a severe shock by Dr. Schliemann's excavations at Hissarlik. That some indeterminate substratum of truth might underlie Homer's story of Troy was thought to be remotely possible, but for the most part that story was regarded as imaginary and legendary. The spade revealed what the wildest literalist never dreamed of, viz., that no less than nine successive strata of civilized settlements, of which Homer's Troy was the sixth, had been left upon the site. The earliest goes back to about 2500 B.C., almost to the time of Sargon of Akkad. Another surprise has lately come to us. Excavations in the Island of Crete have verified the old Greek tradition that Greece derived her civilization from that island. Mr. Arthur Evans at Knossos, Professor Halbherr at Phæstos, Mr. and Mrs. Hawes at Gournia, and others in other places have opened up historical remains which go back into neolithic times, and show us that the neolithic men were not all savage, cave-dwelling huntsmen. Even the truth about the famous Labyrinth and the man—and maiden—eating Minotaur has been brought to light, and the Scripture statement confirmed that Caphtor is Crete and the original home of the Philistines.

By the earlier achievements of Archæology the settlement of post-diluvian man in the plain of Shinar was established as an incontestable fact. That the Kengi-Urite (Sumero-Akkadian) culture which flourished there was indigenous no one believes, but that it was brought there from some mountainous region, according to Genesis xi, no one doubts. Excavations initiated by the Carnegie Institution of Washington, in 1903-4, conducted by Mr. Raphael Pumpelly, in the plains which lie around and beyond the Caspian Sea, and others conducted by Mr. Stein on behalf of the Indian Government as far away as Chinese Turkestan, have brought to light the remains of a long-forgotten civilization in the form of ruins of many ancient cities. The hope has thus been revived that we may yet find the original home of the Kengi-Urite race. At various times the populations of these regions have been driven out, and the excavators believe that their discoveries have thrown some light upon the causes of these excursions. Important

climatic changes appear to have taken place from time to time, so that regions which had been plentifully supplied with water became arid and barren and unable to sustain their inhabitants. The geological formation known as the "loess" is now no longer considered to be of glacial or fluvial origin, but to consist of fine dust blown up by high winds and deposited against the sides of hills and mountains. We must therefore cease to adduce it in evidence of the Noachian Deluge.

Thus also the building of the Tower of Babel has been changed from a subject of ridicule into one of amazement. As one after another the ruins of the cities of Babylonia have been explored the remains of ziggurats have been revealed not less astonishing than the solitary instance recorded in Scripture, whose erection was associated with a degree of folly and sin which excited the Divine displeasure and judgment.

Even for the Confusion of Tongues evidence is not wholly wanting. Here, in a little tract of country, not more than three or four hundred miles long, inhabited by a people whose language was originally one, that language, in some mysterious way back in the earliest times of their settlement, became broken into two dialects, the southern and the northern, with the city of Babylon somewhere near the line of demarcation between them. The Hebrew record uses two words, שָׁפָה and דְּבָרִים, "lip" and "words," and tells us that it was the "lip" which was confounded, by which we may no doubt understand the pronunciation, and now, four thousand years afterwards, tablets are found which had to be written in parallel columns giving the equivalent words in the two dialects.

On the other hand, in the vicinity of this people was another race, the Semitic, whose language was spoken side by side with the Sumerian, and yet retained its unity through so many ages that an Assyriologist who can read a Semitic inscription of Sargon of Akkad, written some 2700 years B.C. can, without difficulty, read one of Nebuchadnezzar the Great, written more than 2,000 years later. No doubt the word "Babel" is a Semitic pun upon *Bab-ilu*, the translation of the Sumerian name of the city *Ka-dingirra*, "The Gate of God." Possibly the jibe of the Semites may indicate that they were not implicated in the impious scheme. But in any case the suggestion thrown out by Rev. C. J. Ball that the Semitic languages may have been developed from the Sumerian is worth considering, whatever may prove to be its ultimate value. The chief characteristic of the latter is the monosyllabic and bi-consonantal form of its

roots, while that of the former is its triconsonantal. But in not a few cases the Semitic roots have the appearance of being formed out of the Sumerian by lengthening, by prepositional additions or by reduplication, *e.g.* BAR "to split," "to divide," בָּרָא "to cut," "to carve," "to create," LAM "to shut up," בָּלַם "to curb," "to restrain," etc.

At all events, with so much evidence at its command, Archæology may fitly urge that the early history of man which has come down to us from Hebrew sources should not be treated as mythical, and its compilation be thrust forward to a time when the shattered fragments of the nation gathered themselves up after seventy years of humiliating captivity under the yoke of a kindred people far behind them in religious knowledge and scarcely their superiors in any of the arts of civilized life.

But it can go further, and show that instead of legendizing the historic heroes of antiquity, we ought rather to reverse the tendency, and humanize the legendary heroes. In Egypt, Menes, the founder of the First Dynasty, is now regarded as an historical personage by Professor Flinders Petrie, and his tomb is believed to have been discovered at Abydos; so also with Minos II., the Cretan sea-king and descendant of Zeus, and even Father Zeus himself is in danger of losing his divinity. The cave of Dictæ, where his mother, Rhea, is said by one tradition to have brought him forth, and Mount Juktas, where he is said to have been buried, have been identified by the excavators at Knossos. Just as in the case of Marduk or Nimrod, the chief deity of the later Babylonians, the cities which constituted the beginning of his imperialism have, with the excavations of the Philadelphia expedition at Nippur, all been made known.

What wonder then if Archæology should be able to give an emphatic denial to the theory that Abraham, Isaac, and Jacob were Canaanitish demi-gods? In 1869, Professor Nöldeke declared that "criticism had for ever disposed of the claim" that Genesis xiv was historical. But thanks to Dr. Pinches for his decipherment of the Chedorlaomer Tablets the historicity of that chapter has "for ever" been put beyond reasonable doubt. With our knowledge of "The First Dynasty of Babylon" and their successors, the Kassites, we are able to follow the history of the Hebrew patriarchs as it flowed on side by side with the Babylonian and Egyptian. Thus:—

- i. Abraham must have been born in the reign of Sumu-la-ilu.

- ii. He left Ur of the Chaldees in the reign of Simmuballit.
- iii. He began his nomadic life about the time of the accession of Khammurabi; and the birth of Isaac and most of the remaining events of his life took place during the time of that monarch.
- iv. If Khammurabi reigned fifty-five years, as one of the tablets affirms, Sarah must have died about the same time as he.
- v. Abraham in any case must have died in the reign of Abeshu.
- vi. Isaac must have died just at the time when the great Hittite invasion occasioned the fall of that Dynasty.
- vii. Jacob went down into Egypt ten years later and therefore in the time of Gandash, the founder of the Kassite Dynasty, and in the time of the first Shepherd Dynasty of Egypt.

Egyptology bears witness to the fidelity of the record of life in Egypt in the time of Joseph, while Professor Hull and his colleagues have proved by going over most of the route the accuracy of the account of the journey of the Israelites from Egypt, and the Tel-el-Amarna tablets have testified to the anarchic state of the land of Canaan facilitating the Israelitish invasion, which followed not long after. Time would fail me to tell completely of the evidence which Archæology has furnished to modern Biblical scholarship, all bidding it rectify the premature theories which were formed a generation ago concerning the supposed mythical character of the historical records of the Old Testament.

### III.

The message of Archæology in the next place calls for the correction of the results arrived at by a misapplication of evolutionary theories to the Biblical records. It is necessary to remember that the Old Testament, like the New, professes to be an historical record. It is difficult, therefore, to see how an evolutionary process can have any place in such a composition. If there be any such process in the case it must have occurred in the events and not in the record. If Lord Macaulay's pen had given us the result of an evolutionary process we might have had a brilliant romance, but we certainly should not have had a *History of England*. Hence for Biblical scholarship to follow the lead of an evolutionary theory in the study and interpretation

of an historical record is to follow a will-o'-the-wisp. To act scientifically, it should first acquaint itself with a sufficient number of facts independent of the record from which it might deduce the presence of such a theoretical process in Israelitish national life. But to take almost the only existing record of that life, which certainly is not compiled in conformity with any such process, and cut and hack, twist and transpose, deny and disfigure it to fit such a theory is, figuratively speaking, both as cruel and unscientific, as it would be to insist that a man should wear a garment of an artificial pattern, and to bend and break, distort and disfigure his limbs to make them fit it.

The Biblical record, as it stands, is the record of a national life supernaturally directed and controlled, with an ultimate purpose in view, by a Power interposing at every stage to check the evolutionary results of moral evil, and to preserve that national life from self-destruction, until the purpose of the controlling Power should be accomplished, in the advent of One into the world from without the *kosmos*—an incarnation of a Divine Person, and not the final result of an evolutionary process. With the history as it stands, the testimony of Archæology is in complete agreement, and gives not the least sanction to the results which have been made to follow from the application to it of an evolutionary theory. The question at issue is—did the events take place, and did the agents concerned in them feel, think, say, and act at the time, and in the manner asserted by the record? The answer of Archæology, so far as its testimony goes, is most emphatically "Yes." The only answer which the evolutionary hypothesis can give is "No, it is impossible." Hence it is believed to be—

- (a) Impossible that the national life and polity should have been founded upon any legislative basis approximating to that of the record, so that "The Law was *not* given by Moses" (John i, 17), no matter who says it. There may have been a "Mosaic nucleus" in it or "Mosaicity," but that is all.
- (b) Impossible that the alleged lapses of the people from the so-called Mosaic law recorded in the history and denounced by the prophets should ever have occurred. The record must therefore be regarded as anachronistic; interpolated, or later ideals were projected back into earlier times, while a higher religious faith was being evolved.
- (c) Impossible that such conceptions of the Deity and

such religious worship required to be rendered to Him as those assigned to the beginning of the nation's history, should have existed at that time. The national faith at first must have been heathenish and polytheistic until the conception of Jehovah as a tribal God had had time to develop into that of a universal Deity.

- (d) Impossible that the higher religious and spiritual experiences attributed to the historic characters in pre-prophetic times could have been true of them. Accordingly with a strange want of knowledge of the psychology of the religious life, the keen sense of sin, the humble submissiveness of will, as well as the lofty and sublime ecstasies, attributed in the Book of Psalms to David, are denied to that strong, passion-torn warrior. To satisfy the theory, therefore, they are given over to some unknown exilic or post-exilic writer whose personality was not conspicuous enough to win for him any known place in the nation's history, and whose very name is lost in oblivion.

These are a few of the conclusions which follow from the application of an evolutionary theory to the Biblical record. To state them is almost sufficient to refute them, but Archæology in its message to the modern Biblical scholar has something to say concerning them.

First, with regard to the Mosaic legislation. The scholarship in question answers itself concerning the military element in it by denouncing it as revoltingly cruel and therefore by no means anachronistic nor requiring any evolutionary theory to explain or to post-date it. Yet, it should ever be remembered that war is never a dainty business, and the little Hebrew peoples had to take it upon the terms imposed upon them by the older and greater and indeed by all the military nations around them. Amongst these nations, however, in later times, the reputation of the Kings of Israel is testified to by the servants of Benhadad, king of Syria, who say to him, "Behold now we have heard that the kings of the House of Israel are merciful kings" (1 Kings xx, 31). The justness of this contrast cannot be doubted by anyone who has read in the original the unabashed boastfulness of Sennacherib upon the Taylor Cylinder, in his description of the unmitigated and disgusting cruelty with which he treated the living, dying and dead upon the battlefield. There are no signs of an evolutionary process there. But when we are shocked at the militarism of the past it may be well to remember that under the coming



reign of "The Prince of Peace" the happy people may be not less shocked when they learn that we could ever have believed in the Christianity of a Hedley Vicars, a Havelock, or a Gordon.

With regard to the civil legislation of Moses, if one may distinguish it from the religious, when compared with the famous Laws of Khammurabi, codified five or six hundred years before the time of Moses, and separated by a thousand years from the supposed "J," "E" and "P" documents, there is no sufficient difference to call for any theory of evolution. The *lex talionis* is found in both. Khammurabi, it is true, put a man to death for sheep-stealing, and so did the English law of the eighteenth century, while the Mosaic law more wisely and more humanely required restitution and a fine—a principle which, if applied to-day, would soon put a stop to pocket-picking and burglary; and there are other cases of greater humanity. But both sanctioned polygamy, and both sanctioned divorce for causes other than unfaithfulness. The reason given by our Lord for the latter continuing up to His own time,—a reason for all defective legislation—shows no evolution on the subject for nearly two thousand years but a retrogression,—“For the hardness of your heart he wrote you this precept, but from the beginning it was not so.”

It is, however, in the religious legislation that the process is supposed to have most effectively operated. The limits of space prohibit a reference to more than the one outstanding case supposed to afford conclusive evidence of religious evolution. I refer to the composition of the Book of Deuteronomy. Though founded upon the contents of the Books of Exodus, Leviticus and Numbers, it is considered to show a considerable advance upon them. To account for it the discovery of "The Book of the Law" by Hilkiah, the priest, in the days of King Josiah, is fixed upon, although there is nothing whatever in the narrative to show that the book found was the Book of Deuteronomy, nothing else and nothing more. It is surmised that there was a "Mosaic party" formed six hundred years after Moses was dead, and that to strengthen their influence the Book of Deuteronomy was forged. Kuenen says: "Deuteronomy was written not for the sake of writing, but to change the whole condition of the kingdom. The author and his party cannot have made the execution of their programme depend upon a lucky accident. If Hilkiah *found* the book in the Temple, it was put there by the adherents of the Mosaic tendency." Thus, a book devised to promote the pure and reverent worship of God was a forgery, concocted by godly

men concerned for truth and righteousness. Surely a strange alliance between light and darkness, truth and falsehood, to advance the cause of a truth-loving God.

In opposition to this incredible theory Archæology has brought to light the fact that as far back as two thousand seven hundred years before Christ the custom existed of burying written documents at the foundations or in the walls of important buildings. Nabonidus, King of Babylon, in his well-known inscription of the sixth century B.C., says of the Temple of Sippar, "That temple I excavated, and its ancient foundation I sought, fifteen cubits I dug up and the foundation-stone of Naram-Sin, the son of Sargon, which for 3,200 years no king before me had seen, etc." (This date is now known to be erroneous.) Excavations conducted by M. Naville in Egypt have brought to our knowledge the fact that in that country also, thousands of years ago, copies of portions of "The Book of the Dead" were buried within temple-walls. Surely it is more reasonable to conclude with M. Naville that the Book of the Law found by Hilkiyah had been actually buried there, probably at the building of the Temple by Solomon, and that it was a genuine Book of the Law of Moses. There is thus no need to cast moral aspersion upon the Jewish high-priest, or upon the divine methods of insisting upon truth and righteousness in the world.

Before closing this subject one more discovery may be referred to. The supposed late date of Deuteronomy is based partly upon what is called the "Law of the Central Sanctuary" contained in the twelfth chapter. But the recent translations of the Aramaic papyri found in the island of Elephantiné in Egypt have revealed the fact that as far back as the middle of the seventh century B.C. when Psammetichus I. drove the governors of Assurbanipal out of Egypt, a costly temple was built there for the use of a Jewish colony. Here burnt-offerings and sacrifices, meal-offerings and frankincense were being presented continually. This temple was the only one of its kind known to have been standing during the seventy years of the Babylonish captivity. The importance of this discovery lies in the fact that while modern Biblical scholarship has been confidently affirming that the books of Leviticus and Deuteronomy and the whole "Priestly Code" (part of "P") were not the work of Moses and that the latter did not come into operation until after the exile, these bits of papyri show us the Levitical code in full operation 150 years earlier.

But it is replied that at all events the Book of Deuteronomy

could not have been known, because of the Law of the Central Sanctuary which would not have been thus violated. To which the question may be reasonably returned: Did the Jews in Egypt understand the Law as modern criticism has interpreted it? Would it not be more reasonable to understand it as applying only to the land of Canaan? Are we to suppose that a colony of Jews in a distant land were prohibited from practising their religious rites? Did Isaiah understand it so when he wrote, "In that day there shall be an altar to Yaweh in the midst of the land of Egypt" (xix, 19)? In the next place, even were the Law of the Central Sanctuary what criticism affirms, the fact that the Jews in Egypt did not observe it, would be no proof that it did not exist. The papyri show that they did not observe the laws forbidding participation in heathen idolatries, but their non-observance of these laws is no proof that they had no existence.

On all the questions touched upon in this paper, and on many more, it is necessary that the voice of Archæology should be heard. Too little attention has been given to it by modern Biblical scholarship. We gladly recognize all the good that that scholarship has done in quickening the spirit of enquiry and constraining the students of Scripture to make sure of the correctness of their interpretations. But if its influence is to be wholly good, it must be content to correct the follies of its youth and make the attainment of truth its only aim.

"We search the world and truth we cull—  
 The good, the pure, the beautiful—  
 From graven stone and written scroll,  
 From all old flower-fields of the soul;  
 And, weary seekers of the best,  
 We come back laden from our quest,  
 To find that all the sages said  
 Is in The Book our mothers read."

#### DISCUSSION.

The CHAIRMAN said: I feel no doubt whatever that I am giving utterance to the general feeling of those present when I say that we have listened with great interest and pleasure to Mr. Tuckwell's paper. Most of us have listened to him and read his writings before, and knew what to expect, and it is pleasant to find this afternoon that our expectations have been fully realized.

Well now, as we all know, one of the great difficulties in treating a subject like archæology and modern Biblical scholarship in half an hour or three quarters of an hour is the great number of important things that must necessarily be left unsaid. Still, in spite of these obvious limitations, I feel a little surprised that Mr. Tuckwell should so uniformly identify "Biblical scholarship" with the methods and results of one particular party among Biblical scholars, namely, those who, assuming that the course of progress in religious thought and belief is in all nations and ages necessarily the same, consider themselves authorized in rejecting any historical statement, however well supported, which is not in accord with this assumption, and those, very commonly the same men, who believe themselves able, in dealing with documents written three thousand years ago, and in a language no longer used, one in which there is nothing else that can be used for test or comparison, to pick out clauses and passages in close connection with one another, and say that the one was written by a quite different person to the other, and many hundred years before or after the other.

I must say that it is to me very remarkable that the men who allege this are very often men who deny the possibility of miracles.

I think we must allow the existence of Biblical scholarship, and, thank God, ripe and sound scholarship too, which endeavours to base itself on really ascertained facts, including those of archæology, and is very cautious in admitting the results of so-called literary analysis.

My second caveat is that "Biblical" seems used throughout the paper as equivalent to the Old Testament alone. I admit, of course, that the bearing of archæology on New Testament scholarship could not have been included in Mr. Tuckwell's paper in the limits of time and space imposed upon it. But do not let us forget that what is true of this matter in regard to the Old Testament is true to an even greater extent in regard to the New, and that the school of Biblical critics referred to have been forced, by general consent, to abandon many of their most confidently asserted positions as to the New Testament mainly by the results of the discovery of old books, long lost sight of, and by the results of excavating and inscriptions which have brought out the historical character of narratives whose truth had been questioned because they did not fit a "critical" theory.

One last point and I have done. We must frankly admit that in questions of natural science truth has often been reached by the framing of theories as an attempt to give a connected account of a number of observed facts. Of course, the next step must be rigidly to test the theory to ascertain whether it really does explain and connect the observed facts, and in those sciences which admit of it experiment is the obvious method of doing this. But in applying this test to sciences or branches of knowledge dealing with the past, such, for instance, as geology or history, we cannot easily make experiments, and this particular test resolves itself into this: can we, by means of our theory, predict the existence of facts which subsequent research may show to have really occurred.

As we all know there have been striking instances of this in the history of natural science. The existence of the planet Neptune was discovered as a consequence of the working out of a theory that observed variations in the movements of the planet Uranus were due to the action of an unknown planet.

Again, quite in our own days, the famous Russian chemist Mendeléeff framed a theory known as the Periodic Law, with regard to the relation of the atomic weights of the elements. In accordance with this theory he asserted the existence of certain unknown elements, three of which were afterwards discovered. He also questioned the correctness of certain "accepted atomic weights" because they did not correspond with his theory, and here also his predictions were justified by the result of subsequent experiment.

Now, while we cannot object to the framing of theories with regard to the character and composition of the books of the Bible, we are fully entitled to demand that the most searching tests shall be applied to those theories before we accept them. And, in so doing, we are acting in a truly "scientific" spirit. Now, as Mr. Tuckwell has shown us, the discovery of new facts by archaeological research supplies the means of applying this very test. Did the Biblical "critics" with whom he is dealing truly predict, as a consequence of their theories, any facts which have subsequently been discovered? The only possible answer is that they did not.

Did they, on the other hand, assert, as a consequence of their theories, that many accepted facts were not, in fact, true? We know that they have done that in great number. Then, has subsequent archaeological research in any important instances verified

these corrections? I, for one, am not aware of a single such instance.

It seems to me, therefore, that the "critical theories" on the part of certain Biblical scholars with which Mr. Tuckwell has dealt this afternoon are discredited by the test of their comparison with the results of archæological discovery, and that as regards the Old Testament this is very convincingly set forth in Mr. Tuckwell's paper.

The Rev. CHANCELLOR LIAS said: As one of the oldest members of the Council, I am pleased to congratulate the Institute on the striking and picturesque paper which has been read to-day. I say picturesque because of the graphic language in which the author has put his points before us. It is now some years since the learned Professor Flint, the great authority on Theistic philosophy, remarked that the time had come when "the critics should be criticized." They have been criticized to-day. It is a pity that they should, as I fear they do, resent such criticism; and should be unwilling, or at least *seem* to be unwilling, to come out into the open to discuss the questions at issue. For they claim for their criticism that it is "scientific." Yet it cannot be rightly called "scientific" until it has been tested and has stood the test. Especially is the claim so frequently made for the Biblical criticism of the hour that it represents "the final and unalterable results of scientific criticism" essentially unscientific. For scientific theories are constantly liable to be corrected by fresh discoveries, *e.g.*, the recent discovery of radium has profoundly modified the hitherto accepted theories about heat and matter. If the Biblical critic, on scientific grounds, can claim finality for his conclusions, he not only sets the history of Biblical criticism at nought—since it has been constantly replacing one theory by another—but on his principles the supposed discovery of radium ought to be resolutely disallowed as contrary to the "final and unalterable" conclusions of modern physical science. That were to return to the old dogmatism which barred the progress of scientific discovery from the days of Aristotle to those of Bacon.

I have only one or two remarks to make in support of Mr. Tuckwell's paper. Professor Orr seems to think (see p. 224) that the theory that the use of the names Jahweh and Elohim are characteristic of different authors has been conclusively established. This

idea is very commonly held. But a little more familiarity with the history of Biblical criticism would entirely dispel it. Astruc, it is true, about the middle of the seventeenth century, propounded this theory. But Hupfeld, in a most able, learned, and ingenious essay, published in 1853, gave Astruc's theory its death blow. He showed beyond dispute that a great part of the "Elohistic" portions of the Pentateuch, as recognized in his day, displayed a far closer resemblance to the work of the "Jehovist" than to some of the portions of the "Elohistic" narrative itself. So he insisted that there must have been *two Elohists*, the writings of one of which displayed a much closer affinity to that of the Jehovist than to the writings of his brother Elohist. The latter Hupfeld supposed to have written a brief and elementary outline of Hebrew history with no great literary skill. This discovery was embodied in the critical scheme, and from that time the use of Elohim and Jehovah practically ceased to be distinctive of different authors. When Professor Driver acknowledged that "J E," that is to say, the narrative of the Jehovist and one of the Elohists as combined by a subsequent editor, could not with certainty be divided into its component parts (Introduction, p. 109), the theory in question may be said to have been decently interred. Another point made by Mr. Tuckwell in the same page may be allowed to receive additional illustration. The criticism which assigns Genesis i to an unknown post-exilic author carries its own refutation with it. Mosaism is unquestionably, however it came into existence, one of the foremost religions of the world. And Genesis i is an embodiment in the forefront of the narrative of one of the most important of its tenets. In the east and west alike great philosophers and the founders of great religions placed man's source of weakness in the material organization which formed a part of his composite personality. Plato, for instance, contended that man's great duty was to separate himself as far as possible from the body, which was the source of all his moral errors. Mosaism starts with the fundamental assumption that this theory was untrue. "God saw everything that He had made, and behold it was very good!" (Gen. i, 31). So that it was not to the fact that he was encumbered with a body that man's transgression was due, but to another fact, namely, that being endowed from the first with freedom of the will, without which he would have been a mere machine, he deliberately chose to have

experience of evil as well as good (Gen. ii, 17 ; iii, 6). Matter was not, therefore, the source of contamination to the human race, but is eternally pure and unpolluted, as the handiwork of God. Man cannot shift on God the origin of the Fall, but to his own misuse of what God had given him. To suppose that this important doctrine was tacked on at the last moment to a religion which has subsisted for countless generations, by an unknown writer, in days of depression and even despondency, can hardly be regarded as either philosophical or probable.

Mr. MAUNDER said: I should like to join with Chancellor Lias in expressing the great pleasure with which I have listened to Mr. Tuckwell's address. It has always seemed to me that if we but read the books of Moses through, as we have them at the present time, they bear upon their face the evident marks of unity of purpose. Take for instance the book of Genesis, and look at it as you would at any other piece of literature. It does not matter what sources were used in the composition of the book, but its writer from the beginning to the end works upon one clear, definite plan ; and that plan finds its completion in the closing chapters of Deuteronomy. There again in that book, if we simply read the book as it stands, as Professor Moulton has shown us in his *Modern Reader's Bible*, we find that book an essential unity ; four noble orations, the one arising out of the other, lead up to the great Song of Moses ; and orations, more eloquent, more masterly, do not exist in any literature whatsoever. Looking at the question from the point of view of literature alone, the books of Moses are evidently the work of a single master mind.

There is one trifling matter on which I differ from Mr. Tuckwell. I do not think that the well-known Babylonian seal to which he refers, "irresistibly points to the conclusion that the engraver was familiar with some such story as that in Genesis iii." It is *possible* that the engraver was trying to show some such incident, but the evidence is very slight. In all the many references to the seal which I have come across, not one points out that the seal was engraved on a cylinder, which necessarily has in itself no beginning nor end. The serpent on the cylinder is not more behind the one figure than the other. I have made a very rough little representation of the cylinder, which I will hand round, and it is sufficient to show that we might begin the seal on either side of the supposed snake. It is



not quite clear to me indeed that the snake is a snake, or anything more than a dividing line to show how the cylinder was to be placed when an impression was to be taken. Nor is it certain that either of the two figures is intended to be a woman. Moreover, they are both clothed, an important difference from the narrative in Genesis, and neither has taken the fruit from the tree, nor is giving it to the other; both are in exactly the same attitude. I therefore think it very doubtful whether we have the right to assume that there is any reference to the story of the Fall.

Mr. JOHN SCHWARTZ, Jun., described the paper as "able special pleading," and said the real conclusions of archæology were against the Lecturer, that evolution of morality and the spiritual was proved all along the lines, that the degradation theory of savages was exploded, and that the Jews, like others, had developed in the same way as other early peoples, and that the prophets alone could be said to be inspired.

After a few remarks from Professor LANGHORNE ORCHARD—

Rev. W. R. WHATELY said: There are two points raised by a previous speaker on which I should like to say a few words. He referred to the degeneration of savages as an exploded theory. I should rather describe it as (in some instances) a demonstrated fact. I believe that the Australian aborigines speak a language which must have been developed by ancestors in a higher state of civilization than the present race.

Secondly he spoke of the evolution of an ethical monotheistic religion in Israel as an instance of the general law of religions. The "general law!" Where is there another instance, apart from the Bible, of an ethical monotheistic religion? There is absolutely none. So far from being an instance of a general law, the appearance of such a religion in Israel is absolutely unique. Nor does the supposition of a gradual evolution from lower forms of religion render it any less unique.

Rev. JOHN TUCKWELL in reply said: Mr. Chairman and ladies and gentlemen, I beg to thank you very cordially for the appreciation with which you have received my paper. The little criticism it has received will not need any lengthy reply. With regard to our Chairman's remarks, the use of the word "modern" in the title shows the limitation of the professed scholarship with which it deals. The existence of other Biblical scholarships I have clearly recognized on

p. 221. And with regard to the New Testament branch of the subject that will be dealt with in the forthcoming Gunning prize essay.

To the Rev. Chancellor Lias my thanks are due for a very suggestive and helpful supplement to the contents of my paper.

As to Mr. Maunder's remarks concerning the Babylonian seal, if the supposed serpent be only a dividing line then that disposes of his suggestion that because it is in the form of a cylinder the engraver intended his design to be "without beginning or end." Moreover, viewed in this position the two figures are back to back—a relationship which was certainly not an integral part of the design. It is quite true that the Babylonians of the same period made profuse use of dividing lines in their *inscriptions*, separating sentences and even words by them, but they invariably ruled them straight. I do not remember ever to have seen a wavy dividing line like this one. I do not know whether Mr. Maunder can give us another instance. Moreover, the formation at one end of the line differs from that at the other and might quite easily have been meant to represent the head of the serpent. Then as to the difference of sex in the two figures that is indicated by the head-dresses. One is adorned with horns, the emblems of authority, which may be taken to represent the authority given by the Genesis narrative to man over woman at "The Fall." The other figure has no doubt what was intended to be a female's head-dress. The deviation in other particulars from the Genesis narrative is quite in accordance with the analogy of the Creation and Deluge stories as Professor Orchard has pointed out. I am afraid, therefore, I must still retain my own opinion on this subject.

Mr. Schwartz's somewhat digressive criticism was sufficiently and very aptly answered by Rev. W. R. Whately, so that I need not occupy your time by any further remarks on the matters referred to by him.

In reply to Mr. Oke's enquiry I may say that by the kind permission of the Council I hope to have this paper published in pamphlet form. Again let me thank you, ladies and gentlemen, for the patient and sympathetic hearing you have given me.

531ST ORDINARY GENERAL MEETING.

MONDAY, APRIL 15TH, 1912, at 4.30 P.M.

PROFESSOR EDWARD HULL, LL.D., F.R.S., VICE-PRESIDENT,  
TOOK THE CHAIR.

The Minutes of the previous Meeting were read and confirmed, and the following elections were announced :—

ASSOCIATES : The Rev. D. A. Stewart, M.A. ; G. W. Maunder, Esq.

The CHAIRMAN : I have the pleasure to introduce to the Members of the Institute the Rev. Professor Henslow, who through a long and useful life has been investigating the structure and origin of plants and animals, and will expound to you his views on one of the most mysterious of physical problems, the development of species as far as human investigation is capable of carrying us under the term of "Directivity," which for good reasons he prefers to that of Darwin under the term of "Natural Selection." If the problem is incapable of solution at the lecturer's hands, it is only because it baffles the ken of human investigation.

---

*ADAPTATIONS IN PLANTS AND ANIMALS TO  
THEIR CONDITIONS OF LIFE ARE THE RESULT  
OF THE DIRECTIVITY OF LIFE.* By the Rev.  
Professor G. HENSLOW, M.A., F.L.S., etc.

**I**N studying nature one must clearly understand what we mean by Natural Science, and what are the methods of proof at our command to establish any theory or interpretation of nature's methods of procedure. Apart from Psychology, natural science embraces : (1) the accumulation and classification of *facts* appreciable by the senses ; (2) the investigation

into their correlations and causes ; (3) the generalizations from them and the consequent discovery of natural laws ; (4) the search for proofs of all inferences, deductions, hypotheses, etc. These must be based, first on *Induction*, *i.e.*, the accumulation of coincidences, all conspiring individually and collectively to establish the same *probability* as a *fact*. Secondly, whenever possible, induction must be corroborated by *Experimental Verification*.

The objects of natural science also include an investigation into all the phenomena of physical forces. But the *nature* of them, as well as the *ultimate* origin or *Final Cause* of both Matter and Force are unknowable to science.

Scientists are perfectly satisfied with inductions, or the accumulations of probabilities, in all the physical sciences, and it is my object to show that we depend largely and legitimately upon them in Biology. Thus the conviction of the truth of the doctrine of Evolution of all living beings, including man, is based both on induction and experiment. By means of these it has been incontestably and permanently established. I assume that everyone here present is a believer in Evolution, though, like myself, he may not accept Darwinism, *i.e.*, Darwin's theory of *the Origin of Species by Means of Natural Selection*, the title of his well-known work, to account for evolution.

Without transgressing the bounds within which a student of nature has wisely confined himself, namely, all that can appeal to his senses as far as observation and experiment can carry him, as well as just and logical inferences from them—my object, I say, is to show that the nearest approach to a Final Cause possible to the scientist is that we must look to *Life* alone as being endowed with the capacity of *directing* the lifeless physical forces of nature, so that they act upon the also lifeless matter, in order to compel them to form what we are justified in calling *purposeful structures*, *i.e.*, each of them is of some definite use to the plant or animal.

Botany and Zoology have acquired a new name, that of "Ecology." In former days the structure of plants and animals was only studied for the sake of their classification. Anatomy and Physiology were matters of independent laboratory work. Ecology brings every kind of study to bear upon the organism as it lives wild in nature. The word means "Study" at "Home," *i.e.*, the natural surroundings of the organism ; just as "Economy" means the "Ordering of the House."

This new method of pursuit in Biology leads to the recognition of "Associations," all the species of which live under the same

conditions, in the case of plants, such as dry, moist, water, alpine, arctic, &c., and the first observation is that plants of no relationship whatever, but living under similar conditions, are all equally adapted to them; and that even in different continents they often assume the same forms with regard to their vegetative organs, *i.e.*, the roots, stems, and leaves; but are distinguished by their flowers and fruits, which record their right positions of classification.

This leads to the question:—Why are they alike?

The inference of a very wide induction is that the *Cause* lies in the *Direct Action* of the external conditions of life to which the plant *responds*, and the result is *Adaptations* to those conditions. Such are the consequences of the *Directivity of Life*. Lastly, I repeat, experiments verify this induction.

The conclusion is that Ecology *proves* that Evolution is the result of spontaneous adaptability to changed conditions of life. In other words *Self-Adaptation is the Origin of Species*.

The word "Directivity" is new, and does not occur in any dictionary.

We are indebted to Sir A. H. Church, F.R.S., the eminent chemist, for the use of it. He invented it for he felt a want when lecturing on the making of organic products in the laboratory. "I coined it," he writes me, "to avoid the use of force, energy, etc., when describing the parallelism between the chemist *directing* in his laboratory practice chemical *forces* in making true organic compounds, and that mysterious something which employs the same forces to make the same compounds in the plant or animal."

That mysterious "something," as far as human *observation* can carry us, is *Life*, and Life's Directivity applies to every part of an organism, from the original cell to the structure of every tissue and every organ.

When we remember that the universe contains nothing but matter and force, that the former consists of about eighty so-called elements, that *none* of these *per se* is alive or *has any spontaneous power to move*; for there must be some extraneous force to cause their motion, if matter be moving in any direction; and again that *no force can direct itself* or act upon matter *in a determined, purposeful manner*; then it becomes obvious that life cannot arise out of non-living forces or non-living matter. It is not that protoplasm creates life, but the reverse; no new protoplasm ("The physical basis of Life," as Huxley called it) is ever made except through living protoplasm, or rather by the *life in it*; since protoplasm consists of some half dozen inert elements chemically combined in certain proportions.

Sir A. H. Church only applied his term to the manufacture of some definite organic products, as indigo, madder, some sugars, etc., but it covers really the whole field of the entire structure of animals and plants, and when these change under changed conditions of life, it lies at the root of Evolution itself. Every cell implies a "purpose," which the elements C, H, O, combined to form "cellulose" could never *per se* accomplish, and when the organs of an animal or plant change, to become adapted to new uses under new conditions, nothing but directivity could effect the alteration. Thus paws of some terrestrial quadrupeds became paddles in whales, seals, and other marine mammalia; non-sensitive leaves and normally flowering branches have become tendrils sensitive to the slightest touch to enable them to be used as climbing organs.

Nothing of the sort or any adaptations exist in the mineral kingdom, though certain kinds of constant directivities prevail; thus, not only gravity but the planets' motions are expressible by mathematical formulæ. The forms of crystals are constant so far as the angles between their facets are concerned. Chemical combinations of elements are made according to fixed laws and in all cases matter moves under strictly *directed* forces; but they never change.

Now let us turn to the organic world. Animals and plants grow by means of food. This is a mixture of matter and force or energy. In the case of animals, it reaches nature's internal laboratory, where, just as a chemist mixes various substances in *his* laboratory, ferments, bile, acids, alkalies, etc., are severally supplied by secreting organs as required. The result is blood. Leaving the chemical department, this is now ready for distribution by means of the action of the engine or heart, which transmits it to every, the minutest part of the body; for if one pricks any spot with the finest needle, blood is sure to come out. We might compare the circulation of the blood to a train leaving a terminus, laden with all sorts of parcels *directed* to various stations along the line, which the train deposits on arriving at them respectively. Just so is it with the blood, for lime is deposited in larger quantity where bones are forming, as well as to the teeth. Silica or flint is conveyed to the teeth, nails and hair. The scarce mineral fluor—which is the material made into vases and ornaments of purple, yellow, and other colours in Derbyshire, known as "Blue John" or Fluorspar—is found located in the enamel of the teeth. Salt reaches the tears but does not stop at the mouth. Phosphorus is an important

ingredient in the brain; and iron gives the red colour to the blood, etc. Beside all this, the blood never stops to deposit its ingredients; as a train does its parcels. In addition it picks up Oxygen at the station called the Lungs for all the body to respire, by oxidising it, supplying warmth and energy for all the work to be done.

Lastly, as a train takes back "returned empties," so the blood brings to the lungs and discharges the waste product of Carbonic acid gas into the air.

Similar procedures take place in plants, though in a simpler way. A plant is built up of cells, and the cell-walls are composed of a substance containing only the three elements C,H,O, called "Cellulose." How could this inert vegetable matter be shaped into cells having all sorts of sizes and forms by "blind forces" without some directivity to guide them? A lump of clay might just as easily form itself into a brick, as Carbon, Hydrogen and Oxygen construct a cell. The cell-wall is not living, it is the life in the protoplasm within the cell which makes the former *secrete* the cellulose and so construct the cell.

Some writers would place the "directivity" in the *matter* of the protoplasm and consequently call it "purposive matter"; but the elements composing it are C,O,H,N,S,P, etc., but not one of these has, nor any, nor all in combination, any power *per se* to do anything. It is solely the *life* in the protoplasm which is the possessor of directivity.

But where or what is it that may be called the "centre of life." It is the nucleus within the protoplasm, whether this be bounded by a cellulose covering, or not, as in animals. The nucleus is one of the most extraordinary things in the world. Omitting many details, it looks like a chain lying loosely, but not neatly coiled, within a spherical membrane, outside of which is the protoplasm of the cell. Its first duty is to make two cells out of one. The chain divides into a definite number of pieces of the same lengths which take the form of a U. Now appear fine lines like a spindle, the ends forming two "poles," the broader part is on the "equator." Each U splits in two, forming two U's. These arrange themselves round the equator and are attached by their ends to the "meridians." Half of them glide along these lines till they reach one pole, the other half similarly reach the other pole. There they appear to exude some substance which unites the U's, end to end, so that a new chain is formed, now called the daughter nucleus. Now begins the formation of the new cell-wall right through the equator up to the old cell-wall; and thus two cells are formed.

These increase in size, till they are able to be divided in the same way. Thus a "tissue" of similar cells is made. It seems that the fine meridial lines of protoplasm remain and pass through the new cell-wall; so that *all* the cells have what is called a "protoplasm continuity," perhaps forming a sort of elementary nervous system.

How could all the preceding, and much detail is left out, be done without directivity? At first the new cells are all alike; but they soon have to acquire a variety of forms according to the plant's requirements. Under life's directivity some will elongate into spindles to make wood with thick and hard walls to support the stem, others will elongate much more, and instead of hardening the walls they become thick but remain flexible and so form the fibre of flax and tow. Other cells assume a drum shape, one over the other in a long line. Their partitions are absorbed and a long tube or "vessel" is thus made for the rapid and easy conveyance of water. To strengthen these the vertical wall of the cylinder is thickened in various ways; such as by a spiral band, just as a garden hose may have a coil of strong wire round it.

On the exterior surface of a leaf the cells are flat, for the purpose of making a skin, and if the plant grow in a very dry, hot district, as a desert, the outer surface is made very thick by forming a coat of substance somewhat akin to indiarubber. This prevents the loss of water. On the other hand, if the plant grow submerged, the skin is not wanted nor is any strong supportive tissue; so these are not formed.

Everywhere are to be seen innumerable, purposeful arrangements and the necessary structures to meet the necessities of plant life under all conditions wherever plants can grow. Without this capacity to make these adaptations, vegetable and animal life would either be extremely limited or cease to exist.

This capacity is shown by the *Response to the Conditions of Life*; so that when seeds get dispersed and find themselves in some different kind of surroundings, and germinate, the plantlets at once begin to assume new features under the "direct action of the changed condition of life," as Darwin expresses it, and so develop "acquired characters" in adaptation to their new surroundings. Thus, an inland plant may acquire the fleshiness of a maritime plant when growing near the sea in consequence of the influence of the salt. Or a sea-side plant may become quite thin-leaved if grown inland. The changes may be enough to satisfy a systematic botanist that the plant can be called



a new species. When *Arabis anchoretica* was grown at Kew, the seeds having been gathered from plants growing in crevices in high alpine rocks, and cultivated in the Kew Gardens, they became *A. alpina*.

There is, of course, nothing new in calling attention to purposeful structures; for such has been the theme of all natural theologians, whether it be Paley or Darwin. But the question is *how* have they come about? Paley drew an analogy between man's designing and God's designing, as in the well-known argument about the watch.

As long as comparatively few animals and plants, whether living or extinct, were known, they seemed to be very distinct; so that even Sedgwick argued against Evolution because in his day the several strata seemed to reveal distinct series of fossils. This led him to believe in a succession of separate creative acts.

The progress of research has revealed many groups of transitional forms, both in fossil animals and plants, often with almost insensible gradations, especially among living species. Thus Mr. G. Bentham tells us that in preparing the *Genera Plantarum* he could find no well-marked differences between any of the ninety *genera* of *Asteroidæ*, a tribe of the *Compositæ*; and every genus has one or more *species*. It is on such induction as this that Evolution is strongly supported, while Darwin argued upon the data supplied by Domesticated Plants and Animals.

Besides his theory of natural selection, upon which Darwin laid most stress, as the chief means by which Evolution or the Origin of Species was supposed to have been worked out in nature, he gave us an alternative solution, barely hinted at in the first edition, but much more strongly emphasized in the sixth and last. He said that the "direct action of the changed conditions of life" leads to "definite" or "indefinite" results, and adds "by the term 'definite' action I mean an action of such a nature that when many individuals of the same variety are exposed during several generations to any change in their physical conditions of life, all, or nearly all, the individuals are modified in the same manner. A new sub-variety would thus be produced *without* the aid of selection."

This change of view with regard to the source of Evolution was first introduced into his *Variation of Animals and Plants under Domestication*, II, pp. 271 ff., and subsequently into the sixth edition of the *Origin*, etc. As an example we read in the

first edition (p. 102): "Within a confined area, with some place in its polity not so perfectly occupied as might be, natural selection will always tend to preserve all the individuals varying in the right direction." In the sixth edition (p. 80) this passage runs as follows after the word "polity": "All the individuals varying in the right direction, though in different degrees, will tend to be preserved."

In his letter to Professor Moritz Wagner he wrote (1876): "In my opinion the greatest error which I have committed has been not allowing sufficient weight to the direct action of the environment, *i.e.*, food, climate, etc., independently of Natural Selection. . . . When I wrote the *Origin* and for some years afterwards, I could find little good evidence of the direct action of the environment; now there is a large body of evidence."\*

There would seem to be no doubt that it was in consequence of his ecological investigations into the *uses* involving adaptations of structures for special purposes, *e.g.*, of climbing, insect fertilisation, etc., that led him to this important change of view.

Darwin alludes to "all the individuals (say of plant seedlings) varying alike." Such is *always* the case and none have the requisite "injurious characters"† for natural selection to eliminate. What, then, supplies its supposed use in destroying the vast majority of offspring? It is what Darwin called "fortuitous destruction." Of a million or more eggs of an oyster, Sir E. Ray Lankester tells us that perhaps one only is "lucky enough" to fall on a suitable spot whereon to grow into an oyster; all the rest are eaten by fishes, etc., or fall on unsuitable ground. It is obvious, therefore, that there can be no "fittest to survive." And if the above be true of one oyster, we are led to infer that it is true of *all*.

Yet there are varieties among oysters, *e.g.*, in the Baltic with less salt in the water the shell assumes a different form. There are also small and large varieties; presumably, therefore, they were the "definite results" of the direct action of different environments, including different kinds of food.

This alternative explanation of Darwin's has been amply established as the true one.‡ The theory of "Natural

\* *Life and Letters*, III, p. 159.

† *Origin*, etc., sixth edition, p. 64. "Injurious" means "inadaptive."

‡ I called it the TRUE DARWINISM, see *The Nineteenth Century*, Nov., 1906, p. 795.

Selection" and "Self-adaptation" are *mutually exclusive*. In fact the former has really no *facts* whereon to base it, only assumptions.

In conclusion, how do we now stand with regard to Evolution by the Directivity of Life?

1. Far more offspring are born than can possibly live. The majority perish by fortuitous destruction.
2. As long as there is no change in the environment, the species remains unchanged; the slight individual differences occurring in all organisms are of no account, as a rule, in species-making.
3. By emigration or transference to a different environment, *all* the offspring of the same kind, if any change is necessary, change accordingly; the adaptations appearing during growth to the adult stage.
4. If such changed organisms live for a sufficient number of generations under the same conditions in which their variations were evolved; then, if they be restored to the old environment or to some other new one, the variations *may* be hereditary and *mostly are* permanent; and Evolution will be thoroughly established, without the aid of Natural Selection.

#### DISCUSSION.

The Rev. A. IRVING, D.Sc., B.A., proposed a hearty vote of thanks to Professor Henslow for what might perhaps be considered, from the scientific side, the most important paper read before the Institute during this session. He thought it would be found to answer the criticisms of those who had attacked his views as to (a) the truth of Evolution as a theory (within its proper limits); (b) the necessity of recognising *directivity* as a factor of Evolution itself. The speaker quoted the words of Professor Henslow's paper (p. 248):—

"I assume that every one present is a believer in Evolution, though, like myself, he may not accept Darwinism, *i.e.*, Darwin's theory of the *Origin of Species by Natural Selection*, to account for Evolution."

The author of the paper had confined himself to the *strictly scientific side* of the question, and had thus placed the whole matter

in a masterly way before those who (with some knowledge of palæontology) were capable of following his arguments. He understood the Professor to use the term "man" (on p. 248) as connoting only his *physical organism*, the mere *homo*, as the crown and summit of the *fauna* of this planet, while, at the same time, recognizing that the term *man* (in the sense of Scripture and Philosophy) connoted a vast deal more, as he had himself contended in his published writings for years past.

Thought on this matter had moved on so far since Darwin's *Origin of Species by Natural Selection* appeared, that the speaker found himself in entire agreement with Professor Henslow in his statement (p. 255) that the theory of "Natural Selection" and that of "Self-adaptation" were mutually exclusive, and that to the theory of self-adaptation "Directivity" is *absolutely essential*. He further pointed out that Sir E. Ray Lankester's illustration from the multiplicity of the eggs of the oyster (p. 254) had its parallel in the plant-world in the tremendous waste of pollen of the *conifers*, which was a matter of common observation to those who lived in the heart of the pinewood country, giving rise to the phenomenon known by the natives as "sulphur-rain." In connexion with the remarks (on p. 249) on protoplasm as "the physical basis of life," the speaker reminded the meeting of Professor Burden Sanderson's remark in his Presidential Address to the British Association (Nottingham Meeting, 1893) that "in another sense *life* may be said to be the basis of protoplasm," a thesis which still holds the field.

Mr. ARTHUR W. SUTTON said: I fully appreciate the responsibility of responding to the Chairman's request that I should say a few words in reference to this most interesting paper we have just listened to.

Forty years ago I had the privilege, with my friend Mr. Martin L. Rouse, who is present to-day, of sitting under Professor Henslow when he was Professor of Botany and Geology at the Royal Agricultural College, Cirencester. Since that time the Professor, who was then master of these subjects, has been continually accumulating knowledge in the pursuit of Natural Science; my time has been spent in the study of plants themselves and their surroundings, under ordinary conditions of culture.

May I mention that it was extremely difficult in the five minutes

allowed me to offer any adequate remarks in reference to a paper which has taken more than an hour to read, and is so exhaustive in its details. I am extremely grateful to our Secretary for allowing me to revise and supplement what I said at the meeting.

Evolution. At the outset I much regret that Professor Henslow has used the term "Evolution" as descriptive of, or to denote, such modifications of plants or adaptations in plants as may be due to the change of environment.

I doubt very much whether any two persons in this meeting understand precisely the same thing by the term "Evolution," but I am quite certain that nine out of ten of those present, if not more, understand that by the word "Evolution" is meant some progress or development from a lower or more rudimentary organism to another which is higher and more complex. I have not the slightest hesitation in affirming that in no single instance among the many examples to which the Professor has called our attention by the drawings and specimens submitted to us, is there the slightest evidence that the changes he claims to be due to changed environment have resulted in any advance from a lower to a higher organism or from a relatively simple to a more complex one. If this is so, the term "Evolution," as almost universally understood, is incorrectly applied to such changes as the Professor considers have been produced by change of environment.

The word "modification," or even "mutation," although the latter has acquired another and distinctive meaning, would be more suitable and more correct.

Page 248, paragraph 1. I question whether the accumulation of coincidences is sufficient to establish any probability *as a fact*, because further "inferences, deductions, and hypotheses" may entirely alter our attitude towards these coincidences.

Page 248, paragraph 2. Professor Henslow says that "the ultimate origin or Final Cause of both Matter and Physical Force are unknowable to Science." I much prefer to take the view of A. Russel Wallace, the earlier but joint author of Darwin's theory of "Natural Selection," who most definitely asserts that Science demands the recognition, and therefore the *knowledge*, of an Intelligent Being as the Final—or rather the First—Cause of the phenomena of Physical Force. Without an initial act of creation followed also by subsequent creative acts, Wallace is unable to see

how any process of Evolution could overcome the otherwise insuperable barriers which would oppose themselves to the upward course of Evolution.

Page 248, line 18. No experiments exist which in the slightest degree prove the "Evolution" of Man or other living beings, and the "coincidences" upon which the induction rests relating to such "Evolution" of Human Beings or animals, or even of plants, give no warrant for assuming that such evolution is established "as a fact." Consequently, I do not admit that either have been "incontestably and permanently established"; and "Evolution" remains, as it has always been, an hypothesis and nothing more.

Page 248, paragraph 4. To start with the assumption that Life has been endowed with the capacity of directing the physical forces of nature is unsatisfying to our intelligence; this involves the further assumption that as there are infinite varieties of life, each one has been endowed with the capacity of directing the lifeless forces of nature so as to build up the structures of that infinite variety of plant and animal life which we observe around us. It is manifest that Life, unless itself directed, could never, through the ages which have passed, succeed in forming the varied structures of the countless forms of plant life, tree life, bird life, animal life, or marine life.

Page 249, paragraph 3. Professor Henslaw says that "the inference of a very wide deduction is that the *Cause* lies in the direct action of the *external conditions of life* to which the plant responds." I would submit that if the Cause of Adaptation or Modification lies in the external conditions of life, *i.e.*, Environment, it does not lie or consist in life itself; and if this is so, this paragraph entirely contradicts the second paragraph on this page, where we are told "we must look to Life alone as being endowed with the capacity of directing the lifeless forces of nature."

Page 249, line 15. I maintain that for the word "Evolution" should be substituted "Variation or Modification of Form."

Page 249, line 17. I must deny that Self-adaptation is the "Origin of Species," for there is no evidence that any one of the many instances mentioned or of the specimens submitted, where specific difference is apparent, is the result of changed environment; for though it is so evident that plants, in some or many respects similar, have different characteristics when found growing under different con-

ditions and environments, there is no evidence whatever that they had a common origin, or that one form proceeded from the other, nor do we know which of the two may have been the earlier form. Consequently, to state that Self-adaptation is the "Origin of Species" is not founded upon any sufficient evidence, even though Self-adaptation may produce some more or less apparent modification.

Page 249, paragraph 7. The term "Directivity" is in every way a valuable one if we attribute the Directivity, not to some inherent quality of Life, but to the First Supreme Cause and Author—namely, God Himself.

Page 249, paragraph 8. Professor Henslow, after claiming Directivity as an attribute of Life, states that "no force can direct itself or act upon matter in a determined purposeful manner," and as Life endowed with Directivity would be a "Force," the Professor hereby denies to Life the very attribute which he claims for it, namely, "Directivity."

Page 250, first paragraph. I know of no evidence to prove that "in some quadrupeds paws become paddles, as in whales, seals, and other marine mammalia," and certainly no experiments have proved this. It is purely a hypothesis and nothing more.

Page 251, paragraph 4. After the observations already made I would only say that the life in the protoplasm is not the possessor of Directivity, but the subject of Directivity by God Himself, just in the same way as chemical forces are directed by the chemist in his laboratory.

Page 251, line 17. Is the Professor correct in saying that the cell wall is not living? Has it not as much life as the protoplasm within the cell when it is enabled to secrete cellulose?

Page 252, paragraph 5. The professor says that "when seeds get dispersed and find themselves in some different kind of surroundings the plantlets at once begin to assume new features." Anyone present would conclude from these words that it is the invariable result when seeds are dispersed and sown under varying conditions that the plantlets begin to assume new features. With all respect to Professor Henslow, I would absolutely deny that this is so. Although some slight modifications may occasionally be seen under changed environments, yet these acquired characteristics cannot by experiment be proved to be "permanent," *i.e.*, capable of being transmitted, or if so, then only in such a very limited degree as

entirely to disprove the statement that "Response to the conditions of Life" is, or ever has been, a sufficient cause for the origin of the innumerable species in Nature.

Page 253, paragraph 4. Professor Henslow says that "it is on such induction as this" (that the ninety genera of *Asteroideæ* show no well-marked differences) "that Evolution is strongly supported." I would submit that the mere fact that many forms or species closely approximate to one another is no evidence whatever of Evolution, unless we can, by experiment, observe these forms or species passing one into the other and always with an advance from a lower to a higher organism.

Page 254, paragraph 5. Professor Henslow is here arguing that Adaptation to environment, or Modification resulting therefrom—in other words, Self-adaptation—is "true Darwinism," and sufficiently accounts for the origin of species. As I have already indicated, I believe there is no evidence of any existing species or sufficiently well-defined and "permanent" variation being thus produced. Even if "Self-adaptation" could be proved in some isolated instances to have caused the appearance of new forms or distinct species, it could not possibly account for the origin of such diverse forms as the oak tree, the beech tree, the apple or pear tree, the palm tree, or the tamarisk. For what evidence, or even reasonable inference or deduction, is there to indicate that any amount of changed environment, or "finding themselves in some different kind of surroundings," could have produced any one of these from the other? If the Professor wishes us to believe that it is the power of Directivity, which he assumes that the life in the protoplasm possesses (see p. 251, line 25), which has, without any outside direction, produced such extremely diverse forms of tree life, and in an equal manner innumerable forms of plant, animal and marine life, I can only say that to my mind this is pure assumption based on totally insufficient "coincidences," and unsupported by any possible experiments.

Page 255, conclusion 4. Science does not admit that the characters acquired in response to changed environment "are mostly permanent." This can only be maintained by the assumption that plants now found growing under widely different conditions in various parts of the world, and which are distinct, though in some respects resembling each other, had a common origin, and that their



differences are due to having been "dispersed, and having found themselves in some different kind of surroundings" (p. 252, paragraph 5). Even when the points in which they differ are greater than those in which they resemble each other, we are asked to believe these are due to the "response to the conditions of life," which is really begging the question, for there is no evidence in the vast majority of cases of any common origin, or that they had ever been "dispersed" to different surroundings.

In 1909 the Cambridge Philosophical Society published a series of essays in commemoration of the centenary of Charles Darwin's birth, and of the fiftieth anniversary of the publication of *The Origin of Species*. One of these essays is by Georg Klebs, Ph.D., Professor of Botany in the University of Heidelberg, and is entitled "Influence of Environment on Plants." Speaking of modifications induced by experiments under changes of environment he says:—"So far as the experiments justify a conclusion, it would appear that such alterations are not inherited by the offspring. Like all other variations, they appear only so long as special conditions prevail in the surroundings."

Again:—

"Two methods of experimental research may be adopted, the effect of crossing distinct species, and secondly the effect of definite factors of the environments. . . . The" (second) "method of producing constant races by the influence of special external conditions has often been employed. . . . But as regards the main question, whether constant races may be obtained by this means, the experiments cannot yet supply a definite answer."

And again:—

"During long cultivation, under conditions which vary in very different degrees . . . it is possible that sudden and special disturbance in the relations of the cell substances have a directive influence on the inner organizations of the sexual cells, so that not only inconstant, but also constant, varieties will be formed. Definite proof in support of this view has not yet been furnished, and we must admit that the question as to the cause of heredity" (*i.e.*, heredity which results in variation) "remains fundamentally as far from solution as it was in Darwin's time." Professor W. Bateson, F.R.S., also in the same volume deals with "Heredity and Variation in Modern Lights," and says as follows:—"As Samuel Butler so truly said, 'To me it

seems that the "Origin of Variations," whatever it is, is the only true "Origin of Species" and of that not one of us knows anything." "We must, as de Vries has shown, distinguish real, genetic variation from *fluctuational* variations, due to environmental and other accidents, which cannot be transmitted."

The only conclusion we can come to, after the most liberal allowance has been made for such slight modifications as may be traced to change of environment, is that "Science" cannot offer us any satisfying explanation as to the manner in which, or the means by which, the innumerable types of animal and plant life came into existence or attained their present forms. On the other hand, the more we study these forms of life, the more satisfying we shall find—if only we are willing—those incomparable and infinitely comprehensive words in Genesis:—

"Let the earth bring forth grass, the herb yielding seed after his kind and the fruit tree yielding fruit after his kind . . . ." "Let the waters bring forth the moving creature that hath life . . . ." "Let the earth bring forth the living creature after his kind . . . ." "Let us make man in our image, after our likeness. . . ."

Mr. MARTIN L. ROUSE, M.R.A.S., said: Professor Henslaw's lecture recalls the pleasant days in which Mr. Arthur Sutton and I were his students at Cirencester. His lectures then always exceeded anticipation by their fascinating interest; and to-day, after forty years, listening again to his discourse, I see the interest of its printed form more than doubled by his admirable illustrations. All the more do I regret that I cannot fall in with his final conclusions. Adaptations due to environment he has proved, and the breaking down of partitions between what were supposed to be different species in a few cases, but nothing approaching to the doctrine of evolution. That *Ranunculus aquatilis*, when he sowed it in dry earth, had all its leaves alike is a very remarkable fact, and more striking still is it that when it still grew in water another scientist was able to turn its lower brush-like leaves into well-bladed ones by chemical feeding, which overcame the dilution of the protoplasm by water. But no one ever saw the petals of this species change from white to yellow, like those of our land ranunculi or buttercups [though we have seen many a pond dry up with water ranunculi in its bed, and the seeds self sown near the edge must often remain without a water-covering, when the winter's rainfall is below the average]. Again I

was taught at Cirencester that, although common land buttercups love wet meadows, you may get rid of them completely by laying a whole meadow under water for a month or so—the time for which water meadows are flooded twice a year—yet in all our floodings, artificial and natural, no one ever knew a land buttercup turn into a water one.

That the splitting up of a leaf through peculiar environment does not readily tend to become a permanent character is evidenced by the case of the horse radish, for in the centre of a clump of horse-radishes you will sometimes find a good number of leaves resembling the frond of a simple fern with a separate segment to each principal vein. Yet, whoever saw a species of horse radish that had such leaves instead of the usual entire leaves ?

But, in any case, nothing in this paper proves that the essential organs of a plant, left to natural influences alone, ever materially change.

Certain species of heath in South Africa and of epacris in Australia greatly resemble each other in foliage, as the Professor has shown us, and because, as he maintains, of the similar dry climate; but still the Australian plants all keep the five petals of their order, and the African ones their four.

An article written by Mr. Sutton for the *Gardeners' Chronicle*, after a recent tour in Palestine, upon the behaviour of the two well-known plants, *Anemone coronaria* and *Ranunculus asiaticus*, is strong evidence against evolution. They have flowers alike in shape and size, and often in colour also. But the anemone has, of course, only one floral envelope—no outer cup like the ranunculus, its leaves are much more finely cut than its rival's, and it begins to bloom three weeks earlier. They grow together at all altitudes, from the shore of the lake of Galilee to the top of Carmel, over a range of five thousand feet or more, yet they never interchange or lose one of their three distinctions: the earlier blooming plant is always the one with the single row of bright flower leaves and with the finely divided stem leaves, the later blooming plant has always both calyx and corolla and stem-leaves simply three-parted.

It was at Cirencester that I first learnt the peculiarity of the primrose in having its stamens in one flower all reaching higher than its style, and in another its style reaching higher than its stamens, and that Darwin had discovered that the stigmas of short styles fertilized from high stamens, and of high styles fertilized from short

stamens, yielded larger, stronger flowers than the stigmas of high styles fertilized from high stamens, and of course than short forms interbred.

This fact shows that the tendency of a species is to maintain an average type, and not to branch off into permanent exaggerated or stunted varieties.

Mr. DAVID HOWARD said: When we use the word evolution it is most important to be sure what we mean. Darwin was understood—rightly or wrongly—to teach that evolution was the result of accident; but if evolution is the result of law, or, as this most interesting paper suggests, of an adaptive power inherent in life, we may well argue that a law involves a lawgiver and that the power of adaptation in living tissue is a form of creative energy that requires a Creator to explain it.

The illustrations of this adaptive power are most interesting, and throw great light on many points in a most complex question. I am not a botanist, but I have had to study the formation of medicinal substances in plants. A very difficult problem—why do only a few species of cinchonæ contain quinine? What benefit does it serve in the life of the tree? Seeds grown in England in hothouses grow into healthy plants, the bark of which contains but little quinine, cuttings from these taken to the Nilghiris give trees with a rich yield. By careful selection and suitable environment bark is obtained giving over ten per cent. of the dry weight, but the quinine, much or little, does not seem to affect the health of the tree.

Mr. S. COLLETT said: Mr. Chairman, before making a brief comment upon Professor Henslow's paper, I should like, if it is not out of order, to propose that a message of sympathy be sent from this Meeting to our friend Lieut.-Col. Mackinlay, who, since his lecture before this Institute only a month ago, has undergone a very serious operation, from which, for some time, his life was almost despaired of. He is now, it is hoped, slowly recovering. And, although the Committee have doubtless sent a communication to him from themselves, I think it would be nice if a message of loving sympathy were sent him from this Meeting.

As to the paper before us, I am sure we must all feel that from many points of view it is a most masterly and interesting lecture. The only point, however, to which I wish to call brief attention is

the statement in para. 3, p. 248, that "*the conviction of the truth of the doctrine of evolution of all living beings, including man . . . has been incontestably and permanently established.*"

Now, sir, I confess my surprise that the Professor should have made such a statement as that. I should have thought that whatever his personal views might be he would have known that the doctrine of the evolution of man is one of the most *uncertain* and *unproved* of theories ever propounded!

What is evolution? Here is what Sir Oliver Lodge says, and I suppose he is one of the greatest authorities of the day:—

"Taught by science, we learn that there has been no fall of man; there has been a rise. Through an ape-like ancestry, back through a tadpole and fish-like ancestry, away to the early beginnings of life, the origin of man is being traced."

Or, to use the words of two other modern professors, "It must be granted a primeval germ, originating it does not know how . . . some primitive protoplasts gliding in a quiet pool . . . proceeding through unthinkable millions of years . . . emerging *as man*, at a moderate estimate, half-a-million years ago!"

That is the doctrine of the evolution of man as taught by its greatest exponents!

Now the question is: Is this theory "incontestably and permanently established," as the Professor declares it to be? Let us see.

No less an authority than Professor Tyndall said: "Those who hold the doctrine of evolution are by no means ignorant of the uncertainty of their data!" While Professor J. A. Thomson, of Aberdeen University, and Professor Patrick Geddes, of Edinburgh University (to whom I have already referred)—both of them strong evolutionists—when writing an article in defence of evolution in a book recently published, entitled *Ideals of Science and Faith*, actually make this pitiable confession in answer to the question, "How man came":—"We do not know *whence* he emerged . . . nor do we know *how* man arose . . . for it must be admitted that the *factors of the evolution of man partake largely of the nature of may-be's, which have no permanent position in science.*" And an article in the *Times Literary Supplement* of June 9th, 1905, referring to a number of professors who have written on the subject of evolution said, "Never was seen such a *mêlée*. The humour of it is that they all claim to represent 'science.' . . . Yet

it would puzzle them to point to a theological battlefield exhibiting more uncertainty, obscurity, dissension, assumption, and fallacy than their own. For the plain truth is that, though some agree in this and that, there is not a single point in which all agree. Battling for evolution they have torn it to pieces; nothing is left—nothing at all, on their showing, save a few fragments strewn about the arena.”

Therefore, sir, I, for one, hope I may be allowed to say emphatically that I do *not* believe in the theory of the evolution of man—partly on account of what I have already said, but also because (although I am aware that our evolutionist friends deny it) it is in my judgment so entirely opposed to the inspired record given to us in the Word of God as to the origin of man, viz., that “*God created man in His Own Image, in the Image of God created He him; male and female created He them,*” Genesis i, 27.

Professor LANGHORNE ORCHARD wrote :

The chief merits of the paper are (in my judgment) its successful exposure of the fallacy of Darwinism and its insistence upon the directive character of “that mysterious something” called “*Life.*” Life itself, and, therefore, also its directivity, are doubtless attributable to spiritual action. As we are reminded (on p. 249), our gratitude is due to the inventor of this useful word “*Directivity*”—a word which has come to stay, and is likely to soon take its place in dictionaries, a word which is welcomed by many scientists besides Bergson as standing for the true explanation of natural facts.

The author, like evolutionists generally, occasionally permits himself to make assumptions more bold than accurate. On p. 248 he says, “I assume that everyone here present is a believer in evolution.” A reference to our *Transactions* may show him that he has made a mistake.

The arguments brought forward in support of evolution seem very feeble. On p. 249 occurs the startling announcement that “spontaneous adaptability to changed conditions of life” is the origin of species. If we look for some proof of this, we read (p. 252) that an inland plant grown near the sea may become fleshy, and a seaside plant grown inland may become thin-leaved; and it is seriously said that the changes may be sufficient to warrant the plant being called a new species. But if, with Buffon, we define a species as “a constant succession of individuals similar to, and

capable of reproducing, each other," the change of environment produces not a new species but a new variety only. Some years ago, at University College, I was listening to the author as he pointed out that a change of environment may modify size and form, but does *not* affect specific differences; and he gave as an instance the American cacti, which, when grown in Africa, remain of the same *species*, although modified in size and appearance. On p. 253 we learn that Mr. G. Bentham finds "no well-marked differences between any of the ninety *genera* of *asteroideæ*." It would be interesting to know on what system of classification that gentleman proceeds in calling such groups "*genera*," when they are obviously not so. The author quotes Darwin's opinion (p. 253) that changed conditions of life may produce a "new sub-variety." A "new *sub-variety*," however, is a different thing from a new *species*; and the cause of true science would not be advanced by calling it by the same name.

On p. 249 (paragraphs 1 and 2) we read that "plants of no relationship whatever," living in the same or similar environment tend, through the influence of the environment, to become *alike*. Is not this inconsistent with the statement that the environment has caused those great and striking *differences* which mark off species from one another? The several geological strata which, in Sedgwick's time (p. 253), revealed distinct series of fossils and distinct species which had lived side by side, makes the same revelation to-day, and tells us that Sedgwick was right in believing in a succession of separate creative acts.

We shall all, I am sure, join in thanking the able author for a most interesting paper.

Mr. W. WOODS SMYTH: While congratulating the Victoria Institute upon receiving a paper accepting evolution in any form, I beg to offer the following criticisms:—

- (1) Professor Henslow appears to have changed his position. He used to make much of "Divine Directivity," now it is the "Directivity of Life." Any theory of directivity which goes beyond the dowry of attributes bestowed upon life at the beginning is entirely unscientific.
- (2) The idea that species have originated through one or two factors alone is opposed to all the evidence we possess.

- (3) When we consider the influence of artificial selection, exercised by man, in producing varieties so diverse as to resemble even different genera; and when we remember that organisms in a transition state, before they reached finished forms, were in a much more plastic state; and we then take into account that natural selection is much more potent than artificial selection; to say that natural selection exercised no influence in the production of species is absolutely untenable.

It is quite true that natural selection alone cannot produce species of organisms, but it is an important factor in their production. No more can its antitype in the spiritual realm, namely, election, of itself produce a Christian, but it is an important factor in his production.

The LECTURER, in reply to the more extended remarks set forth above, now writes:

I thank Dr. Irving especially for so cordially accepting my position. The only point he questions is my meaning of "man." As he rightly says, I intentionally confined myself to the scientific side of the problem of evolution. This asserts that man (*Homo sapiens*) rose from some line of the mammalia; such a belief is based on purely scientific inductions. But how he acquired his vastly superior mental, moral and spiritual attributes is a question which would have carried me far beyond the limits of my paper. I purposely avoided it, as it transcends the sphere of natural science.

Mr. Sutton has supplied me with a great number of questions, to which I will reply as briefly as possible. Evolution, perhaps, cannot be better defined than by the old expression of the sixties—"Descent with modification." To which may now be added, in Darwin's words, its meaning of definite results or variations, by means of a response in the organism to changed conditions of life. These may be relatively permanent or not at all.

It seems to be assumed by some persons that evolution necessarily implies progress or development from lower to higher forms or structures. This is not quite correct. Palæontology proves that, what were adult forms in earlier days are often now represented by the embryonic stages of modern beings, e.g., amphibia were the "highest" vertebrates in the Coal period represented now by our newt and others. There were no frogs and toads, but the



tadpole of to-day is of a fish type, and passes into an amphibian and then a true air-breathing frog.

But what some appear not to have observed is that you cannot have "advance" without some retrogression; because every change implies new adaptations to the new conditions of life; but with these is correlated the disuse of certain organs no longer required; which consequently degenerate by atrophy, often remaining rudimentary, or they may vanish altogether. In all cases the resulting creature becomes perfectly adapted to its requirements.

Thus, parasites show a great amount of degradation, just as does an oyster. The whole of the class Monocotyledons has been evolved from aquatic Dicotyledons, and though many are now terrestrial plants, they all have retained the "degraded" characters due to an aquatic environment.

Mr. Sutton questions the value of "induction" (*i.e.*, numerous coincidences, all being independent of one another, yet equally supporting the same probability) as "proving" a statement.

But to do so in one science and not accept it in another is scarcely justifiable. Every "belief" in the revelations of geology is based on induction; as we cannot make Nature retrace her steps and prove by experiment how coal was made, how animals came successively into existence, etc., etc., yet it was partly the fossils of Patagonia which suggested evolution to Darwin.

In astronomy, no intelligent person believes that the sun rises and sets or that the earth is flat; but our "convictions" are based solely on "probabilities," but of so high an order that any alternative is now unthinkable.\*

Mr. Sutton, however, accepts induction himself when he quotes Wallace's statement—"Science demands the recognition of an intelligent Creator." No one denies this. But it is impossible to *prove* (*i.e.*, by any experiment) that there is a God. The knowledge, or conviction in His existence, is based solely on induction; of course, apart from all revelation.

I am surprised that Mr. Sutton, one of our greatest cultivators, should say, "No experiments exist which in the slightest degree prove the evolution of man or other living beings."

---

\* A murderer is pronounced guilty almost always on circumstantial evidence, *i.e.*, induction.

Darwin based his theory of evolution almost entirely on *Variations in Animals and Plants under Domestication*—the title of his two volumes of *Data*. Surely we have but to think of the innumerable cultivated plants and domesticated animals which have been evolved from wild ones, and are now so totally different, that in many cases the original wild organism is unknown. The whole history is one long era of evolution by experiment! Take as an example, all the pigeons which have evolved from *Columba livida*. All the cabbage tribe from *Brassica oleracea*, all the wheats, maize, barley, etc., from unknown ancestors. Induction is not even required where the whole ancestry is known. Thus, too, Mr. Sutton's admirable forms of *Primula sinensis* and of cinerarias are now widely different from the original wild forms of China and the Canary Islands, while the latest addition called the "Lady," or by other names, is an approximate reversion to the wild form of the cineraria.

As to evolution of man; Nature has made many experiments since his first appearance; and has evolved many very distinct varieties all over the world. Each is well adapted to its sphere of life, as the Esquimaux to arctic conditions, and the Negro to tropical countries. Surely no one will maintain that each race has been specially created.

I cannot help thinking that Mr. Sutton has entertained some mistaken idea of what evolution really is. I repeat, it is nothing more than "descent with modification," sometimes "advancing," as often "degenerating," in various directions.

Whether the changes be called a variety, species, or genus, is just as the systematist chooses to call them. Thus Babington recognized thirty-two British *species* of willows. Bentham groups them under fifteen. Mr. Sutton says there are infinite varieties of "life," using this term to mean "living beings." But I use the word in its *abstract* sense; that is to say, as that which, by its phenomena, indicates a "living being." In this sense there is only one kind of life common to all. He says, "Life itself must be directed," but why may not the life of a plant be *endowed with directivity* by the Creator? A man constructs a watch and "empowers" it with directivity to tell you the time of itself, without the presence of the watchmaker; while in all manufactories the machinery turns out the completed article "designed" by the artificer without his immediate aid.

Similarly in giving rise to new beings in *adaptation* to new requirements, the life in the organism directs the *forces* within it to so arrange *matter* to build up new structures as they are wanted. The directivity of life is, therefore, seen in the very existence of new purposeful structures.

I chose as a simple illustration *Ranunculus aquatilis* and proved (1) that the dissected type of submerged leaves was due to water as the direct *cause*; (2) that when the seeds are sown on land that *specific character* is retained by heredity.

That this species was descended from a terrestrial form, and not *vice versâ*, I showed (1) by induction; as many other cases are known where the great majority of the allied plants are terrestrial, the aquatic one being the exception; (2) that the aquatic character is retained on land: a feature which none of the land plants show. Mr. Sutton questions the statement that if the *cause* of change lies in the direct action of the external conditions of life to which the organism responds, "it does not lie or consist in life itself." Certainly it does not, what lies in life is the "power to respond" to external stimuli. Life does not *initiate* a change, until such is wanted in consequence of a change in the external conditions of the being, to which it *must* adapt itself or it will perish.

He adds: I maintain that for the word "evolution" should be substituted "variation or modification of force." I have already observed that variation or descent with modification is exactly how evolution was often described in the sixties; but "evolution" was adopted instead. It only means "a rolling over." If "self adaptation" is not the "origin of species," how did any variation arise at all? It is only a question of degree from the "more or less apparent modification" to the most distinct species or genus.

Scientifically distinguished, directivity is a *quality of life*; as philosophically described, it is an attribute of God; just as in olden days, as man designs and makes a watch, so God was supposed to have designed and made a man.

Evolution only places God's power *within* the secondary agent *life*, instead of somewhere *outside*. *Life* must be carefully distinguished from *force*. No known force is alive; just as no matter composed of carbon, hydrogen, oxygen, and nitrogen, etc., is alive. Protoplasm is the only exceptional "matter" with its all-important "nucleus," which is *endowed* with life, but its material

elements are not alive. The cell-wall is certainly *not* alive, it is a carbonaceous excretion produced by, and on the surface of, the living protoplasm within the cell. It is allied to starch and sugar, etc.

If Mr. Sutton will do me the honour of reading my *Heredity of acquired Characters in Plants* (1908, Murray), he will find most of his queries answered. If not there they will be found in my two volumes in the *International Scientific Series, Origin of Floral Structures* (1888) and *Origin of Plant Structures* (1895, Kegan Paul and Co.). Space will not let me add more, but I would observe that neither Klebs nor Bateson mentions any experiments to substantiate his statements; many will be found in my books. Mr. Rouse alludes to the fact that while land plants can change their foliage in water, the flowers, as a rule, do not change proportionally or at all. This is true, for the external conditions of life do not so affect the flowers as they do the *soma*. Nevertheless, great degenerations *are* to be seen in many, *e.g.*, the loss of the *yellow* in the corollas of the water crowfoot. Much degeneration is seen in the flowers of all the *Haloragacæ*, etc.

Flooding a field is not Nature's method of encouraging adaptations. It is, as far as we can see, done by degrees. It must begin with the *seeds* in moisture; not by such a destructive method as he describes.

Mr. D. Howard observes that law requires a law-giver; so as directivity expresses the fact that new structures imply purpose, purpose implies mind, and mind means God.

That various species of the same kind, cinchona, etc., as well as other plants, yield different amounts of the same product is of frequent occurrence. Thus strong scents, alkaloids, etc., vary in quality according to the environment. It is well known that dry places especially favour these productions rather than the reverse; tea has more tannin on the hills, etc. It is all the same thing, *viz.*, the results of response to the conditions of life.

As to Mr. Collett's question: who doubts my correctness in saying evolution is a "proved" doctrine. He refers to Sir Oliver Lodge and Tyndall, neither of whom is a biologist! The writer says he does not believe in the evolution of man, and, like Mr. Sutton, would refer to Gen. i, 27, as refuting it.

I will, therefore, in my turn, go to our greatest Assyrian and Hebrew scholar, Rev. Dr. Sayce, Professor of Assyriology. He tells

us in his analysis of every verse in Gen. i, ff., that, in the first place, the first chapter is an adaptation from an Assyrian cosmogony, but, "while the latter is grossly polytheistic, the former is uncompromisingly monotheistic." The one begins with frank materialism, in the other all is referred to the One omnipotent and all-good God.\*

In 1884 I published a work entitled *Christian Beliefs Reconsidered in the Light of Modern Thought*, in which I gave the Babylonish Cosmogony discovered by the late Mr. G. Smith, and compared the tablets with Gen. i, showing the agreements and points of difference. Sayce says the former was a comparatively late production of the materialistic Philosophic age.† The second account, in Gen. ii, is an earlier one. The two, therefore, in Genesis are monotheistic compilations or adaptations from the far more ancient Babylonian cosmogonies.

With regard to the creation of man, Professor Sayce writes: "It was in Semitic Babylonia that the gods were first conceived in human form. From the outset, the deities of the Babylonian Semites were human. They were represented as men and women, being under a supreme lord, Bel or Baal, whose court resembled that of his vicegerent, the human king, on earth. . . . This conception of the gods in human form involved the converse belief that men were divine; they were, accordingly, held to have been made in the likeness of the gods—with the same physical features, and the same mental and moral attributes—and the king himself was deified,"‡ just as, I may add, is the Emperor of Japan to-day.

Professor Orchard makes much the same criticisms as the preceding writers, to which I have already replied. As to varieties and species, I repeat there is *no* absolute distinction between them. Darwin called the former "incipient species"; they really signify the fact that less alteration was required to adapt them to changed conditions.

I unwisely, it appears, assumed that after more than forty years *all* members of the Victoria Institute would have come to accept evolution; but my critics reproduce, almost *verbatim*, what I

---

\* *Expository Times*, vol. xix, p. 137.

† *The Religions of Ancient Egypt and Babylonia*, p. 387.

‡ *Expository Times*, vol. xix, p. 262.

received, as the only evolutionist present in 1868, when on the Council of the Institute. Mr. Orchard gives a hint *why* evolution has failed in the Institute, if one may judge from the following sentence:—"The several geological strata which, in Sedgwick's time, revealed distinct series of fossils, . . . makes the same revelation to-day, and tells us that Sedgwick was right in believing in a succession of separate creative acts." This clearly shows that Mr. Orchard is not aware of the many gaps in palæontology and in living organisms being filled up, as in the mammalia, shells, and early plants, etc., all strongly corroborating evolution.

Mr. Woods Smyth says, I "used to make much of 'Divine Directivity.'" I have no recollection of ever having referred directivity to any other source than *life*, for I have always treated it from a *scientific*, not philosophic or *theological* standpoint.

I am not aware "that species have originated through one or two factors alone." The external conditions include *all* the factors, such as light, heat, moisture, drought, soils, etc. These act on the entirety of the plant—the *total* result is adaptation to these.

"Selection" produces "Nothing"; neither artificial nor natural. Man only *isolates* a variety which Nature has produced. In Nature, a variety A lives, and B dies, because it dies a natural death or is killed. Natural selection did not *produce* A. My opinion is that *Isolation* not *Selection* is the important factor, because it saves the variety from the struggle for existence, which is detrimental to health and development, and leaves it to grow to maturity in peace, just as man endeavours to raise new varieties under cultivation.

I may be wrong, but it gives me the impression that my critics generally have not acquired their knowledge first hand from Nature herself. Unless this is done, and the student does so on *ecological* lines, little progress can be expected. As Galileo said that the earth moved for all his "questioning,"\* so I venture to add evolution is a long since proven fact, notwithstanding my opponents.

---

\* "Tortures."

532ND ORDINARY GENERAL MEETING.

MONDAY, MAY 6TH, 1912, 4.30 P.M.

T. G. PINCHES, ESQ., LL.D., IN THE CHAIR.

The Minutes of the preceding Meeting were read and signed.

The CHAIRMAN introduced MR. MARCUS N. TOD, M.A., Lecturer in Greek Epigraphy in Oxford University, and invited him to read his paper.

---

*INTERNATIONAL ARBITRATION IN THE GREEK WORLD.* By MARCUS N. TOD, Esq., M.A., Fellow of Oriel College, Oxford, and University Lecturer in Greek Epigraphy.

WHEN I was honoured with an invitation to address a meeting of the Victoria Institute, I felt that, not being qualified to speak upon any question of philosophy or natural science, I could not do better than ask your consideration of a subject which for some little time has claimed my special interest and attention, namely, the part played by arbitration in the settlement of disputes between state and state in the ancient Greek world. In spite of the difference, of which we are constantly reminded, between the Greek city-state and the nation-state of the modern world, I shall retain the phrase "international arbitration," as more familiar than "interstatal arbitration," and as unlikely to lead to any misapprehension. I am emboldened to bring this subject before your notice, not only by the ever-increasing interest taken at the present day in the question of the settlement of national differences by peaceful and equitable means, not only by the growing conviction amongst thoughtful men that war, where it is not a necessity, is a crime, not only by the burden of huge armaments which presses more and more heavily each year upon many nations and by the greater destructiveness of modern weapons and appliances of war, but also by the fear that the facts of

ancient experience, the records of ancient experiments, are in danger of being forgotten. Only five years ago, in the Romanes Lecture delivered before the University of Oxford, the Chancellor of the University, himself a great scholar and an administrator of wide experience, said :—

“The earliest instance of a frontier commission that I have come across is that of the Commission of six English and Scotch representatives, who were appointed in 1222 to mark the limits of the two kingdoms, and it is symptomatic of the contemporary attitude about frontiers that it broke down directly it set to work, leaving behind it what became a Debatable Land and a battleground of deadly strife for centuries.”

and again, referring to the settlement of boundary disputes by arbitration, he said :—

“This method is the exclusive creation of the last half-century or less, and its scope and potentialities are as yet in embryo.”\*

How mistaken such conceptions are I hope to make clear to you in this paper.

I shall not overstep the bounds of history and trespass on the sphere of philosophy by any discussion of the fundamental questions of the ethical significance or the moral justification of war. Whatever be our answers to those questions, we shall agree that war, one of the most striking facts of human history, deserves the most careful attention of the philosopher and the economist, it demands the thought of all who are interested in the moral and material well-being of the race,—a class which includes, or at least should include, every Christian. But a purely philosophical and abstract presentation of a case is apt to leave the ordinary man unconvinced, not to say suspicious. Ideals are, no doubt, excellent things in their way, but he prides himself upon being a practical man ; his appeal is not to logic, but to experience. For him, as for all of us, war is a thing inconceivable in the ideal world ; to him, and indeed to every Christian, the full realization of the Kingdom of God involves not only righteousness but peace—peace in the individual, peace between man and man, peace in the relations of nation to nation. But how is this ideal to be made real ? what does the history of the past tell us of efforts made with that end more or less consciously in view ? how far have they succeeded, and where have they failed ?

---

\* Lord Curzon of Kedleston, *Frontiers*, pp. 50, 52.



International arbitration was not, as is sometimes asserted, a creation of the Greeks. The extensive discoveries, made within recent years, of documents relating to the domestic and foreign history of Egypt, the Hittite empire and the states of the Euphrates and Tigris valleys, reveal to us remarkably advanced civilizations, with developed laws and a strikingly active system of diplomatic negotiation, existing before the beginnings of heroic, we might almost say of legendary Greece. Amongst these documents, incised upon stone or imprinted upon clay, I would call your attention to one, which relates the story of a feud between the two Sumerian cities of Shirpurla and Gishkhu about 4,000 years before Christ\*: it tells how, when war had failed to bring about any settlement of the frontier dispute, arbitration was tried, and Mesilim, King of Kish, was appointed to determine the frontier-line and set up a pillar between the two states to commemorate the fact. It is worth noting how prominent a part is played by religion in this early case of the arbitral settlement of a disputed boundary: the chief god of Shirpurla and the god of Gishkhu are spoken of as deciding upon this method, they do so at the command of Enlil, "the king of the countries," and the arbitrator acts under the direction of his own god Kadi. That this was an isolated instance of appeal to arbitration we cannot believe, but probably such appeals grew rarer with the rise of great empires such as those of Assyria, Media, and Persia, which swallowed up the smaller states of western Asia and based their claims upon force rather than upon equity. Yet we hear in Herodotus† how, in the early years of the sixth century B.C., a long and indecisive struggle between Alyattes of Lydia and Cyaxares of Media was concluded by the intervention of Syennesis of Cilicia and Labynetus of Babylon, who "reconciled" the two warring monarchs.

Whether the Greeks consciously adopted the expedient from their eastern neighbours or discovered independently of them this mode of settling quarrels, we cannot determine. The importance of what they did in this field lies in their recognition of the possibilities involved in arbitration, their frequent application of it to heal the differences existing between individuals or states, and their introduction of it into the political life of the western world. From primitive times we can trace in the Greek world attempts to settle disputes by means of negotiation,

---

\* L. W. King and H. R. Hall, *Egypt and Western Asia*, p. 171.

† i, 74.

and it must be remembered that throughout the course of its history this was the normal and natural mode of settling differences between state and state. If diplomacy failed, recourse was had to force, either in the form of armed reprisals, usually of the nature of border raids, or in that of open war. But at an early period the Greeks saw that the appeal from negotiation directly to force was not inevitable, that if each state based its claim upon justice and equity they might agree to accept the decision of some neutral tribunal, whether composed of an individual or of a body of men. If the disputants in this way bound themselves beforehand to abide by the verdict of the arbitrator, we have an instance of arbitration in the proper sense of the term ; if, however, there was no such agreement, but the intervention of the neutral person or power took the form of a suggestion, which the two states engaged in the dispute were free to accept or reject as they thought fit, we have an instance of mediation, which lacks the judicial character and the binding force of arbitration.

We are told that, as early as the eighth century before our era, the Messenians sought to avoid an impending war with Sparta by offering to abide by the award of an unprejudiced court, such as the Argive Amphictiony or the Athenian Areopagus. We have grave reasons for questioning the historical truth of this statement, but there are two well-authenticated examples of international arbitration in the seventh century, and another probably falls very early in the sixth. From these early days down to the time when the Greeks lost their independence and were swallowed up in the irresistible advance of the Roman power, we have an ever-increasing volume of evidence, culminating in the second century before Christ, in which we know from inscriptions alone of some forty-four cases ; if we add to these the numerous instances referred to by Polybius and other historians, and remember that in all probability not one-half of the arbitrations which actually took place have left any trace in our extant sources, we shall be in a better position to realize how important was the part played, in later Greek history at least, by this method of settling international disputes. Again, not only is the appeal to arbitration common throughout Greek history, but it is found in all parts of the Hellenic world, from Sicily to Western Asia Minor, from Crete to the shores of the Black Sea. Where it first found a home on Greek soil we cannot say : we should have expected to find it practised amongst the Ionians earlier than elsewhere, for not only were

they in the closest touch with the Oriental Empires, but they proved themselves the pioneers in many branches of Greek thought and activity. But the historical records of early Ionia are very scanty, and we cannot test this conjecture. One piece of evidence does, indeed, seem to tell against it: Herodotus (vi, 42) tells us how, about 493 B.C., at the close of the Ionian Revolt, the Persian governor, Artaphernes, summoned envoys from all the Ionian cities, newly reduced to their allegiance to Persia, and compelled them to conclude treaties with each other, agreeing to submit to arbitration disputes which should in future arise between them, instead of seeking reparation by reprisals or war. The Ionians, it is said, at the beginning of the fifth century, require a Persian to teach them the lesson of arbitration. But this is not a necessary inference: it may well be the case that Artaphernes was merely taking steps to secure the peace and tranquillity of this portion of the Persian Empire by making it obligatory upon the Ionians in all disputes to adopt a procedure which they had themselves previously employed, though only in isolated instances. We may notice, however, that this action of Artaphernes marks a decided advance on previous Greek usage, so far as we know it. Hitherto, they had waited for the dispute to rise, and then, if negotiation failed to discover a solution of the difficulty, they had turned their thoughts to arbitration, and had employed that means of averting war provided that both the states concerned agreed to submit the case to such and such an arbitrator. Now, however, the states enter into a compact, each with each, binding themselves to settle in this way the differences which might arise between them in future. The second half of the fifth century witnessed the extension of this principle to the free states of Hellas itself, and we have several examples of the insertion of such a compromise-clause in Greek treaties recorded by Thucydides, notably in the Thirty Years' Peace, concluded between Athens and Sparta early in 445 B.C. It may be that some of the more sanguine members of the peace-party in either state thought that a new era of peace had been ushered in: if so, they were cruelly undeceived. The treaty had not been in existence for half its stipulated term of years when difficulties and recriminations arose between the contracting parties. Repeatedly Athens appealed to the Peace and demanded arbitration; Sparta as repeatedly refused. What her excuse was—if, indeed, she had any—we do not know; perhaps it was that the questions at issue were too important to be left to the settlement of an arbitral court, or

that no arbiter could be found capable of undertaking so serious a task and at the same time wholly unbiased, or that the Assembly had no proper opportunity of expressing its view clearly upon the question. All we know is that the long and disastrous Peloponnesian War ensued, that the Spartans felt many a twinge of conscience as they reflected on their refusal to accept arbitration,\* and that the Greek world received a clear proof that arbitration is no infallible and automatic cure for war, but that its efficacy is wholly conditioned by the sincerity and the good faith of both the states which are involved in the dispute.

The rise of the Macedonian power, the conquests of Philip and Alexander, and the partition among the Diadochi of the vast empire they had acquired, brought the Greek world under the sway of a small number of powerful rulers, who, while careful to maintain their supremacy, did not attempt to control all the relations between city and city. There was thus a continuance of the old feuds between the Greek states and an opportunity, of which advantage was frequently taken, of employing arbitration as a means of settlement. Again and again, before the fateful battle of Chaeronea, Philip had urged Athens to decide its differences with him by reference to an arbitrator, and although its citizens, swayed by the eloquence of Demosthenes and those who shared his political views, suspected his *bona fides* and rejected his reiterated appeals, he and his successors were constantly invoked during more than a century and a half to settle the differences which arose, or those which had previously existed, between various Greek states. That this was due solely to the might of the conquering kings, on the one hand, and to the servility of a degenerate Greek race, on the other, as is sometimes asserted, I cannot believe. We must bear in mind that though the potentate, whoever he might be, may well have been pleased to have such cases referred to him for decision, yet his award could not satisfy both the states concerned save in very rare cases; if it was in favour of the one, it disappointed the other. Surely the truth is rather this (and the appointment of the Czar of Russia, the Emperor of Germany, and our own King Edward VII. as arbitrators in recent international disputes will confirm our view), that in the Macedonian and Seleucid monarchs the Greek cities found rulers, most of whom possessed considerable gifts of

---

\* Thucydides, vii, 18.

statesmanship, willing to take pains in the investigation of the facts, anxious for the success of their efforts to heal the feuds and discords which were weakening the forces and destroying the cohesion of their Empires, possessing sufficient power and prestige to secure obedience and effectiveness for their awards, and at the same time likely to act fairly and impartially. For the disputes of which we hear centered very largely round contested frontier-lines, and the adjustment of these would increase neither the power nor the revenue of the monarch who was suzerain lord of both communities alike. The utility of arbitration became more and more widely recognized during these years, and the principle was adopted by the Greek Leagues, which figure so largely in the later days of Hellenic history, and was enforced by them on their component states.

During the early years of the second century B.C. Rome became the dominant political factor in the eastern, as she had already made herself in the western Mediterranean. The close of the second Punic War was followed immediately by the Roman attack on Philip V. of Macedon, who was conquered at Cynoscephalæ in 197, and on Antiochus III. of Syria, who was defeated at Magnesia in 190, and was compelled to evacuate a great part of Asia Minor, which was assigned to Roman allies, Pergamum and Rhodes. A further Macedonian rising under Perseus was crushed in 168, at the battle of Pydna, and gradually the whole of the Greek world passed under Roman rule. Rome had at this time no monarch; the government was practically in the hands of the Senate, which, amongst its various functions, exercised an almost unquestioned control over foreign policy. It is no wonder, then, that the Greek states frequently submitted their disputes to the arbitration of that august body which had superseded the Kings of Macedon and Syria and had made a deep impress upon the minds and imaginations of Rome's oriental subjects. In such cases the Senate might adopt any one of three courses, for its political interests would hardly allow it to refuse outright the position of arbitrator. Occasionally it played the part of an arbitral court, listened to the advocates of the two contending states, and passed a *senatus consultum* embodying its award. But more frequently it delegated its powers to an envoy or body of envoys, whom it despatched to the scene of the dispute to enquire into the circumstances on the spot and to arrive at a decision which was practically binding, although in theory it required senatorial ratification to make it valid. Sometimes, as we learn from several interesting inscriptions, a third course was followed. The Senate, realizing

that it was too far off to be able properly to examine the facts of the situation, and that it was too heavily burdened with business to be able adequately to investigate the case, contented itself with laying down the rule which was to govern the decision and then deputing to some Hellenic state the task of discovering the facts and applying the rule. In one well-known instance, for example, Sparta and Messene both laid claim to a piece of border-land, the ager Dentheliatas, which lay between their territories on the western slope of Mount Taygetus. After several decisions the question was referred to the Senate for settlement: that body decided that the land in dispute was to belong to that state which had been in *de facto* possession of it when L. Mummius, the Roman general who had destroyed Corinth and had made Greece a province of the Roman Empire, was in Greece as consul or pro-consul. The matter was then referred to the Milesians, whose sole duty was to find out which state had been master of the ager Dentheliatas in the year referred to and to enter judgment accordingly.

I have tried to set before you in barest outline an historical sketch of the development of arbitration in the Greek world, based upon a large number of extant records dealing with individual cases. These records are of two kinds. On the one hand we have the references to arbitration which occur in the pages of Herodotus, Thucydides, Polybius, Plutarch, and other authors, both Greek and Latin, consisting for the most part of brief statements of the cause of the dispute, the two states engaged in it, the arbitrator to whom the matter was referred and the result of the appeal. The cases thus mentioned are usually of some historical importance, they are placed in their true setting, and the record, brief as it is, is generally complete and easily intelligible. On the other hand we have the inscriptions, contrasting in many ways with these literary records. In the first place, their survival is wholly independent of the historical value of the events they narrate; thousands of inscriptions are extant to-day, thousands more have perished, but there has been no selection at work determining which should be preserved. In this sphere at least there is no survival of the fittest. The historian selects his materials, chooses out some facts for permanent record and deliberately allows others, so far as he is concerned, to fall into oblivion; but the chance which has partially preserved, partially destroyed the epigraphical records of ancient Greece is blind, and has followed mere caprice and not intelligent principle. Again, the surviving inscriptions are not placed in their proper historical

setting and perspective. Each stone has a story of its own to tell, or maybe but a mutilated fragment of such story; they are isolated pages torn at random from the tale of national and civic and private life. Once more, they are often fragmentary and sometimes almost or quite unintelligible. A stone may be broken and part of it may have been irrevocably lost, it may have been exposed to the weather for generations or even centuries and its contents may be impossible to decipher: frequently the date can only be determined within a century by the character of the writing or the general features of the historical situation indicated by its content, while in other cases such essential points as the name of one, or even of both, of the contending states cannot be discovered.

Yet, in spite of these disadvantages, it is not too much to say that but for the inscriptions we should hardly have any idea of the method and procedure of arbitral enquiries in ancient Greece. For the literary sources very rarely tell us anything but the particulars which are essential from the historian's point of view,—the names of the states involved in the dispute, the nature of their difference, the individual or state invoked to arbitrate between them, and the effect of the award. The inscriptions, on the contrary, are precise and detailed to a degree which is never equalled, very rarely even approached, by the literary histories, and from them we learn not merely the cause, the fact and the result of arbitration, but also its method and its spirit. Let me illustrate this statement by a single example. In one instance, and in one alone, so far as I know, the same arbitral case is recorded both by an historian and also by an inscription. Tacitus (*Annals*, iv, 43) tells us that the dispute between Sparta and Messene, to which I have already alluded, was referred to the Milesian state, which decided in favour of the Messenians. This is all he tells us. Turn now to the Milesian record of this same occurrence, inscribed upon stone at Olympia: it tells us of the meeting of the assembly, convened in the theatre, the exact date on which this took place, the sortition from the whole body of citizens of a court of 600, "the largest permitted by law." The task before this tribunal was to consider the dispute between the Lacedæmonians and the Messenians, to discover which state was in possession of the territory in question when L. Mummius was in the province and to assign it to that state, as directed by a letter from the Roman prætor Q. Calpurnius Piso and a senatorial resolution. The names of the advocates are next recorded and the maximum time allowed for the first and second speeches on

each side : finally, the verdict pronounced by the court is stated in full, together with the number of votes given, 584 for the Messenians and 16 for the Spartans. I have entered somewhat fully into this example because it gives what I cannot but regard as a typical illustration of the characteristic differences between the literary and the epigraphical evidence.

Let us turn for a few minutes, then, especially to this latter class, and try to gain a clearer view of the methods of Greek international arbitration.

In its field it differed but little from that of modern times. A recent writer has attempted to classify the questions susceptible of arbitral settlement on a review of the cases so decided in the last century, and divides them into five groups : boundary disputes, pecuniary claims arising from the unlawful seizure of property, claims for damage by destruction of life and property, disputed possession of territory, including disputed water-rights, such as fishing, and, lastly, the interpretation of treaties. All these classes are represented in the ancient Greek records, though frontier and territorial disputes are by far the commonest, and seem to have been regarded in ancient times as the normal differences between states. Again and again the arbitrators are asked to assign some piece of land to one or other of two contiguous states which claimed it, or to determine the precise boundary-line between the territories of two neighbouring cities. Greece is a narrow land, where states are closely crowded together, and the cultivable soil is so limited in area that even a comparatively few acres might make a considerable difference to the welfare of a community : sometimes, moreover, the land in dispute was of great importance owing to the fact that it contained some temple or harbour, some perennial spring or some position of strategic value. Monetary disputes play a secondary, but by no means negligible, part in the records before us. In such cases the arbitrators might have to determine the liability of a state, as when the Spartans refused to pay a fine to which the Achæan League had sentenced them, or the Lepreates discontinued the payment of an annual rent due to Elis, or the state of Cos claimed from Calymna the repayment of a loan made to it by two Coan citizens ; or the task of the court might be to assess damages and to award due and proper compensation to some state which had suffered at the hands of a neighbour. Sometimes, again, the dispute is not so definite as this, and the arbitrators are authorized to settle a number of outstanding differences between the two states whose mutual relations have



become strained ; this might be done before the occurrence of hostilities between them, or else arbitration might be resorted to as a means of bringing to a conclusion a war which had already broken out. Finally, as I have already said, the Greeks might, and frequently did, make a compact to refer to arbitration disputes which might arise in the future, thus pledging themselves beforehand to the employment of a peaceful and equitable means of settling their differences.

Let us suppose that a feud has arisen between two states which cannot be settled by the ordinary means of diplomatic negotiation : how is arbitration called into play ? The preliminary step is an agreement concluded between the two contending parties, by which they bind themselves to ask for the decision of some neutral person or body, and to abide loyally by the award when given. Such an agreement may, of course, be reached, without the intervention of any third party, on the initiative of the states themselves ; frequently, however, it was made at the suggestion of some friendly power, which stepped in to counsel the adoption of this means to avoid, or to cut short, war ; or, again, the states might be members of a League which, in its very constitution, provided for the arbitral settlement of all disputes between its members, or some superior power might use compulsion or the threat of force to make the states settle their disputes in this way. In any case, the necessary preliminary of a valid arbitration is the consent of the two states involved, embodied in a formal agreement. A number of these have come down to us and show us that they always dealt with three questions : the matter to be submitted to arbitration, the choice of the arbitrator, and the validity of the award : in some cases they went on to determine the date of the trial, the nature of the tribunal, the way in which the award was to be reached and published, and the penalties attending any contravention of it. When these points were not settled in the preliminary agreement, they were left, we may conclude, to the discretion of the arbitrator.

The next step was to approach the proposed arbitrator and ask his acceptance of the task, which, being at the same time a high honour, was seldom, if ever, refused. What determined the choice of arbitrator we are often unable to discover, as on this question the records are usually silent, or speak in quite general terms. Neutrality was, of course, a *sine qua non* : friendliness and "kinship" to the two disputing states are frequently referred to, and in some cases the state which intervened to bring about the agreement to refer the question

to arbitration was itself chosen to give the award. Trustworthiness, prestige, and power were also required; it is only very seldom, if ever, that the arbitrator, whether state or individual, is insignificant. Emperors, kings, despots or high officials were often appealed to: two famous athletes and the poet Simonides are credited with undertaking the office at different times, but these may be cases of mediation rather than of arbitration proper. Of two arbitrators—Stratonax of Apollonia and Lantes of Assus—we know only the names, and cannot say what was their civic or social position, and of one—Maco of Larisa—we learn that he was a private citizen, though an eminent one, of his state, who was chosen, no doubt, because of his skill and the confidence inspired by his high character.

But the appeal to a council or a state is even more common than that to an individual. The Amphictiony of Delphi plays a disappointingly small part, and even more surprising is the almost entire absence of the Delphian oracle from the arbitral records. Ordinarily a state is chosen, a Hellenic state down to the time when the Romans become regarded as possible, or perhaps as the natural, arbitrators in Hellenic quarrels; it must be a state enjoying prestige and a certain position in the Greek world, far enough away to be wholly unprejudiced and yet near enough, in the majority of cases, to be able to send a body of arbitrators, if necessary, without too great trouble and expense. For in all such cases the state appealed to had to delegate its functions to a tribunal of its citizens. In the majority of instances known to us, this tribunal consisted of three or of five members—I know of seven examples of the former and six of the latter number—an odd number being chosen to obviate the danger of an equality of votes in a court where no unanimity was requisite but the verdict of the majority was regarded as that of the whole body. The members who composed these courts were elected obviously for some special qualifications they possessed. But the arbitral tribunal does not always take the form of a small body of experts: the whole democratic constitution of the majority of the Greek states was based upon the assumption that, although for executive purposes a small committee is best and perhaps necessary, deliberative and judicial functions are best undertaken by the whole, or by large sections, of the citizen body, and this doctrine results in the appointment, by the thoroughly democratic method of the lot, of large arbitral courts, intended to represent the "common sense" of the state which appoints them. We have seen that 600 Milesians decided the dispute

between Sparta and Messene, and other examples are known to us in which the court consisted of 334, 301, 204, and 151 members, all of whom had equal voting powers.

Thus constituted, the court set about the fulfilment of its task with all reasonable speed; a limit of time within which the award must be published was sometimes fixed, either by the agreement of the two disputants or by the state which appointed the court. The enquiry was held in the arbitrating state or on other neutral ground or else in the territory which was the subject of the dispute: occasionally it was thought advisable to combine several of these plans, as when a Pergamene court enquired into the difference between Pitane and Mytilene, first hearing the statements of the respective advocates in one or other of the two cities, then paying a visit to the territory in question and finally adjourning to the temple of the Dioscuri at Pergamum for the concluding stage of the trial, or a Rhodian tribunal, after hearing the preliminary speeches in the temple of Dionysus at Rhodes, went to the territory under discussion and ended by giving its verdict in the Artemis temple at Ephesus. The mention of these sanctuaries in which the courts sat reminds us of the religious character and sanction attaching to the whole proceedings, an aspect which was also emphasized by the oath which the arbitrators took. Let me give you the formula of one which has been preserved:—

“By Zeus and Lycian Apollo and Earth, I will judge the case, to which the contending parties have sworn, in accordance with the justest judgment, and I will not judge according to a witness if he does not seem to be bearing true witness, nor have I received gifts from anyone on account of this trial, neither I myself nor anyone else on my behalf, in any way or under any pretext whatsoever. If I swear truly, may it be well with me, if falsely, the reverse.”

At the trial each of the contending states was represented by one or more elected delegates, to whom it entrusted the task of watching its interests, bringing before the court all the available evidence in its favour and pleading its case as effectively as possible: they were usually citizens of the state which appointed them, sometimes its most prominent men, though occasionally a talented and eloquent pleader was secured from some other city. We possess in full the regulations laid down for the production of the evidence and the conduct of the trial in one well-known dispute, in which Cnidus acted as arbitrating city, and we see that every precaution is taken to

secure that all the relevant evidence, duly attested and confirmed, shall be laid before the court. The actual trial begins with the speeches, limited in duration, of the two advocates, into the course of which are introduced the pieces of evidence, oral or documentary, adduced to confirm the statements made: only the actual speech is timed, the water-clock being stopped so long as a witness is heard or a document read aloud by the secretary. Then follows an interval for the cross-examination of such witnesses as are able to be present, and at its conclusion the advocates are allowed to sum up, within a reduced time-limit. There is no further speaking: the court at once finds its verdict, each member voting as he feels inclined, without any "retirement of the jury" or opportunity for combined discussion and consideration. Sometimes we learn exactly how many votes were given on each side. In the case between Sparta and Messene the numbers were 16 and 584 for the two states respectively, in another they were 126 and 78, while in a third, between Cierium and Metropolis in Thessaly, 298 judges voted for the former and 31 for the latter, while five votes were invalid, for some reason which is not stated. Usually, however, the numbers are not given, the majority deciding the award of the court.

There is one characteristic feature of the records of Greek arbitration as contained in inscriptions which deserves at least a passing mention. The arbitrators recognized that they had an even higher task to fulfil than the mere settlement of a quarrel between two states; if possible, those states must be reconciled to each other, and the friendship, which had been interrupted, must be restored. And with this end in view they constantly attempted (the same holds true also of arbitration in private disputes) to induce the states to agree to an equitable settlement. In other words, they tried to decide the difference by mediation before they exercised their arbitral powers and delivered a binding verdict. For they realized that mediation is the function of a friend, arbitration that of a judicial tribunal. I give you a single illustration, the clearest, perhaps, known to us, yet assuredly typical rather than exceptional. In the report on the case between two towns of eastern Crete, Itanus and Hierapytna, the court, composed of eighteen Magnesians, records that, at the conclusion of the speeches made by the advocates of each side, the judges put down their verdicts in writing, that is, they definitely decided what verdict they would give if such were rendered necessary, but were anxious, if possible, to avoid the hard and fast decision of the judicial sentence and therefore,

in their anxiety to restore the friendship which had once existed between the two states, used every effort to bring about reconciliation and amity between them. In this instance the effort was frustrated,—“our purpose,” the report continues, “was hindered of its fulfilment by the exceeding bitterness of their enmity, and the award was consequently decided by vote,”—but there were many occasions, as the inscriptions testify, on which this aim of the arbitrators was realized and the settlement took the form of an agreement or reconciliation and not of an arbitral award. This is no mere question of words and names; it is indicative of the healthy spirit which inspired these arbitral boards.

Of the evidence brought forward in such trials we are well informed, especially by a series of long inscriptions which contain not only the official account of the enquiry and of the award, but also a summary of the evidence used by each side in support of its claims. This depended upon the nature of the dispute, and was of the most varied character. The appeal to mythology and the early epic poems carried considerable weight with a Greek court in determining the original ownership of territory, and we find archæological evidence also employed in the early dispute between Athens and Megara for the possession of Salamis. On that occasion Solon, the Athenian spokesman, cited two verses from the Iliad in confirmation of his case, the crucial one of which he is said to have himself foisted upon the poem, and backed up his contention by an appeal to the manner in which the Athenians buried their dead and a demand for the excavation of Salaminian tombs. The works of historians were also brought forward. We hear, for instance, of a dispute between the Prienians and the Samians, in which the latter rested their cause mainly upon the evidence of four historical writings, which they cited as supporting their claim; but a more careful examination showed the arbitrators that only one work—that which bore the name of Mæandrius of Miletus, but was widely regarded as a forgery—really favoured the Samian contention, while all the other historians—Creophylus and Eualces of Ephesus, Theopompus of Chios, and, most important of all, the four native Samians, Uliades, Euagon, Olympichus, and Duris—ran directly counter to it. Treaties and other public documents, receipts and decrees, deeds of sale and letters were also quoted as evidence, whether written upon paper and produced from state archives or engraved upon stone and set up in temples or other public places. Frequently the report of the

arbitrators quotes verbatim the decisive passages from such documents, in order to show how strong was the evidence upon which they based their verdict. A fragment has also survived recording the depositions made in a territorial dispute between two states of northern Thessaly: there we can read the testimony of an elderly shepherd, who had long pastured his flocks on the land in dispute and can tell, moreover, what the elders of the village used to say about the ownership of the territory, together with that of some fishermen, who add their witness in favour of the same side. The evidence was often complex and conflicting; much of it was indirect in its character, and the truth of oral statements and the authenticity of written works had to be carefully weighed. Yet the impression we receive upon a review of the extant records is that the courts were genuinely anxious to sift the evidence thoroughly and to arrive at an equitable verdict, and that if they sometimes made mistakes, as no doubt they did, it was not from any lack of conscientiousness or sincerity.

The award was written out by the court and copies of it were handed to the two states interested, to be lodged in their public archives. Sometimes this award was quite brief and contained nothing superfluous, as we see, for example, in the Argive award, declaring that three islets belonged to Cimolus and not to its rival Melos: in this case the whole record contains only forty-three words. Later, the desire not merely to declare but to justify their sentence led the arbitrators frequently to write lengthy reports, such as that of the Magnesians, the extant portion of which contains 141 long lines, or that of the Rhodians appointed to arbitrate between Samos and Priene, which is even longer. In order to secure public and permanent records of the verdicts, these were frequently engraved upon stone, both in the arbitrating state and in that which was successful in the trial, as well as in some neutral sanctuary, which was a common meeting-place of the Greeks of that region in which the contending states lay—for example, that of Apollo at Delphi or at Delos, that of Zeus at Olympia, or that of Asclepius at Epidaurus. Again and again our records speak of a quadruple or even quintuple publication of this kind, securing for all who were interested the opportunity of learning the exact terms of the award.

I am only too conscious that in my desire for, or rather, let me say, under the necessity of, compression I have run a serious risk of robbing what I have said of its human interest.

My hope was to bring before you part of the life and thought of the Greeks—I fear I have only presented you with a skeleton of dead, dry facts. For history, to be appreciated aright, demands an effort not only of the intellect, but also of the imagination: those whose lives and actions we study were not automata, but living men and women with hopes and fears, passions and aspirations like our own, and it is possible to possess a full and accurate knowledge of the ascertained facts about them and yet fail to come into contact with that living, pulsating humanity which made them what they were. This effort of sympathetic imagination I ask from you to endow with life the facts I have set before you. I can only ask one question in conclusion, and indicate rather than formulate the answer I would give. Was arbitration amongst the Greek states a success? Bérard, in his treatise on this subject, replies with an emphatic negative, basing his verdict upon the continued existence, for centuries, of disputes which were repeatedly made the subjects of arbitral awards, such as those between Samos and Priene, or Sparta and Messene. Yet these form a very small proportion indeed of the cases known to us, and must be treated not as normal, but as exceptional, and even they will, I think, if carefully examined, lead us to a different conclusion. We shall admit that it was “unsportsmanlike” of the worsted city to refuse to accept its defeat as final, and to reopen the question again and again, but we shall also insist upon two facts, that the renewed appeal was always to a fresh arbitration, never to war, and that for a time, at least, often for half a century or even more, the award is accepted and acted upon. For, in spite of the oft-repeated yet one-sided truth, that an arbitral sentence cannot be enforced, that there is no international police to compel acquiescence, one lesson clearly taught by the experience both of ancient and of modern times is this, that it is only in very rare cases that the arbitrator’s award is repudiated by either of the parties concerned. And thus, although remembering the existence of those age-long disputes, those chronic maladies of the Greek body politic, and of those other cases in which arbitral settlement was refused even by those who had bound themselves by solemn compact to employ it, I would emphatically record my own conviction that among the Greeks arbitration proved a striking success in averting war, in bringing national quarrels and misunderstandings to an equitable conclusion, and in promoting friendship and goodwill between state and state.

We, in this twentieth century, boast a higher civilization, a more enlightened public opinion, a stronger and more developed moral sense: in our midst is the Christian Church, and the person and teaching of its Founder exercise an influence far beyond its visible borders. May we not take the example of the Greeks in this matter as a stimulus, and accept their experience as of happy augury for our own future?

#### DISCUSSION.

Mr. DAVID HOWARD said: This valuable paper is one much easier to appreciate than to criticize. There is nothing new under the sun, and those who think that all noble and valuable ideas date from the beginning of this century, or very little earlier, would do well to learn the value of minute and laborious studies of past history, which seem to them of little value, but throw invaluable light upon the possibilities of applying to modern conditions the admirable, if not new, idea of substituting the civilization of arbitration for the barbarism of war.

The Rev. H. J. R. MARSTON congratulated the lecturer upon his great knowledge, his lucid exposition, and the general excellence of his paper. The reflection which arose to his mind was the greatness of the Greek endowment, not only in art, in which they were *facile principes*, but also in judgment and philosophy, and now from this paper he learnt they were equally great in some moral achievements of which arbitration was a most interesting case. He felt personally indebted to Mr. Tod for this instruction. The Greeks tried it very widely and very successfully. Their moral sense was so strong that, despite repeated failure, yet they stuck to the practice rather than come to blows.

Possibly the conditions between the small states made arbitration easier. Modern conditions as, for example, between England and America were very different, and made the principle far more difficult in practice. Again, the central authority, the Senate, could bind the small powers to carry out the results, and they would therefore be less likely to dispute the awards. The long existence of the spirit of arbitration, proved by this paper, encourages its continuance. He cordially agreed with the opening sentences. No



doubt war had done good, but certainly not such wars as those of Louis XIV. The Dutch wars did good, and there is undoubtedly a sense in which war may become a Christian act. But, unless necessary, it was a crime. He trusted the policy of the Greek world would be more and more adopted among Christian states.

Dr. THIRTLE said: One cannot but recognize that the subject before us is one of peculiar interest, and that it has been opened up in a singularly lucid manner. I am tempted, nevertheless, to raise a side issue, and inquire whether there is in the Old Testament any reference to arbitration as a means of settling disputes. Assuredly the term is not there, but is the thought equally absent? Pursuing our inquiry, we suggest that, in its elementary meaning, arbitration is an appeal to reason (as distinguished from an appeal to force), with the object of settling differences between parties that are estranged from one another, or are likely to become so. Though not prepared to indicate a concrete instance of such a proceeding in Old Testament history, I think we have the thing itself expressed in a well-known appeal found in the prophecies of Isaiah.

It is a celebrated passage to which I refer. By sin and evil courses the people of Judah had become alienated from Jehovah, and though judgment was due, if not imminent, words of mercy were spoken from heaven—all the while with the object of averting the terrible consequences of sin. Then it was that the appeal was made: "*Come, now, and let us reason together, saith the Lord.*" (Isaiah i, 18.) It is, of course, admitted that the machinery of arbitration is not brought before us in the passage; but the language implies a tenderness and consideration for the side that is in the wrong, such as lies at the base of arbitration. The words may be paraphrased: "Come, now, let us face the issue; and may the difference be decided in a manner that shall result in your finding acceptance in my sight, and the doom of sin be averted." In following verses (19, 20) the consequences of acquiescence or refusal are indicated. I suggest that the appeal of Jehovah by the prophet is in the spirit of arbitration in the interest of the wayward nation; and if the language admits of such interpretation, it is reasonable to conclude that the idea of arbitration cannot have been altogether foreign to the Hebrew mind.

The CHAIRMAN said: Though our lecturer does not treat of world-arbitration, but only of that of the ancient Greek states, his

researches have been not only interesting, but also important. It is a paper which breaks new ground, and throws a flood of light in a quarter, and upon a subject, little suspected by the majority of antiquarians who are not Greek specialists.

When thinking over the paper we have just heard, one realizes how advanced the Greeks really were. It is true that there is some doubt whether they brought all the good-will, and all the determination to give and take, which it is hoped that present-day arbitration would exhibit; but one may say that their efforts in that direction had in many—perhaps in most—cases all the elements needful for success. Then, as would also be the case now, one side or the other may have had the determination to yield in nothing, and to take from the other side all that it could possibly get.

We shall never know how early men first thought of submitting their disputes to arbitration. From our knowledge of savage tribes it may be assumed that primitive men were always fighters. Nevertheless, it is difficult to believe that the most uncultured, the rudest, the savagest, always loved strife for strife's sake. Underlying all their disputes and conflicts (when not due to the mere desire for revenge) was the yearning, common to all our race, to get more than their rightful share of this world's goods and advantages, and also to prove that they were the better men physically, and the most determined morally. From time to time they must have realized, however, that they had met their match, and arbitration was the result.

Mr. Marcus Tod has added to the interest of this interesting paper by calling attention to what is apparently a very early instance of arbitration in the ancient world, the states between which it took place being those of Lagaš and Umma\* in Babylonia, and the date 3500 years before Christ, or earlier. One would like to be just a little more certain of the meaning of one or two of the words before accepting this as a real instance of arbitration, but it may be admitted that, if not altogether the real thing, it was at least something very much like it. The text does not state that Me-silim, king of Kiš (the predecessor of Babylon in importance), was the arbitrator, but, apparently enlightened by his goddess Gu-silim,† he

\* Thus, according to the published explanatory lists, instead of Sirpurla and Gišuh.

† So I read instead of *Kadi*.

set up a monument to commemorate the boundary between the two states. To all appearance it was Enlil, "king of the lands, father of the gods," who expressed his divine will, and Me-silim (his name means "the voice of peace," or the like) communicated it to the contending states.

The lesson for us would seem to be, that the code of honour in heathen Greece in such matters was higher than in Christian Europe at the present time—and this not only in arbitration, but also in the declaration of war, when that unfortunate necessity arose; they regarded invasions without notice rather as robberies than as lawful wars. We have sadly fallen off from that high ideal.

I will ask you to return a most hearty vote of thanks to our lecturer for his engrossing paper, which I am sure we have all listened to with great interest, and greatly appreciate for its learning and originality. There is one remark which I should like to make concerning it, and that is, that certain of the details which he has given treat of the subject *at first hand*, thus placing their accuracy beyond the shadow of a doubt.

The AUTHOR: I should like to offer to the Council and members of the Victoria Institute my sincerest thanks for their kindness in giving me this opportunity of submitting to their judgment and criticism this paper, which embodies in a short form some of the conclusions reached in a branch of study which has been of great interest to myself, and also for the cordial reception which has been given to what I have said. In especial let me thank you, Mr. Chairman, for the fresh light you have thrown upon the early document to which I referred. I can claim no knowledge either of the monument itself or of the language in which it is inscribed, and am greatly indebted to you for your remarks about it and for the corrections you have made in that account of the text to which I had recourse. To answer in detail the various questions raised in the discussion would take me too long, and would carry me far beyond the limits of the subject to which I have confined myself in my paper. One point only I should like to emphasize afresh, that the recrudescence of feuds which have been previously settled, once or several times, by arbitration is no proof of the failure of the experiment. Arbitration may be regarded as a medicine employed to heal a disease of the body politic. In most cases of which we have record the cure was

immediate and complete: in a small minority the disease was alleviated but not eradicated, but the fact upon which we must insist is this, that the fresh outbreak of the disease could always be met and relieved, at least temporarily, by a fresh application of the remedy. The ill was incurable by any means known to the political science of the day, and it is fairer to recognize the service which was rendered to Greek public life by arbitration than to criticise it because the cure effected was not always instantaneous and final.

---

TEXT REFERRING TO THE STELE OF ME-SILIM.\*

BY T. G. PINCHES.

Enlil, king of the lands, father of the gods, by his faithful (everlasting) word, divided the territory for Nin-Girsu and the god of Umma. Me-silim, king of Kiš, by the word of his goddess Gu-silim, in her enlightenment (?)†, set up a stone on the spot. Uš, ruler of Umma, acted according to a design too ambitious—he shattered the wrought stone, he entered the plain of Lagaš.

Nin-Girsu, warrior of Enlil, by his righteous word opposed Umma. By the word of Enlil, the great net‡ overthrew, (and) an earth-mound on the plain, in their territory, was founded (*i.e.*, for the burial of the fallen). Ê-anna-tum, chief of Lagaš, ancestor (in reality he was the uncle, as Thureau-Dangin says) of En-temenna, chief of Lagaš, decided the boundary with En-â-kalli, chief of Umma. He made a watercourse to come forth from the river to the edge of the plain; by that watercourse he inscribed a stele. He restored the stele of Me-silim to its place. He did not occupy the plain of Umma. Upon the platform of Nin-Girsu he built, with massiveness, the shrine of Enlil, the shrine of Nin-ĥursag, the shrine of Nin-Girsu, (and) the shrine of Babbar (the sun-god).

(At this point the offerings to the shrines are enumerated.)

---

\* Based upon the translation of M. Thureau-Dangin.

† In the enlightenment due to her, or the like.

‡ The destruction from on high.

THE 533RD ORDINARY GENERAL MEETING.

HELD IN THE ROOMS OF THE INSTITUTE ON MONDAY  
MAY 20TH, 1912, AT 4.30 P.M.

E. WALTER MAUNDER, ESQ., F.R.A.S., PRESIDED.

The Minutes of the preceding Meeting were read and confirmed.

The SECRETARY announced the Annual Address to be delivered by Sir ANDREW WINGATE, K.C.I.E., who would take for his subject "The Bible and Modern Unrest," and that the following presentations to the Library had been received by the Council: Two volumes from Dr. Thirtle entitled *Old Testament Problems* and *The Titles of the Psalms*, and one volume from Mr. H. B. Guppy on *Seeds and Fruits*.

The CHAIRMAN introduced the lecturer, the Rev. E. A. EDGHILL, M.A., B.D., who read a paper on "Miraculous Christianity and the Supernatural Christ."

A discussion followed in which Mr. ROUSE, Professor ORCHARD, Archdeacon POTTER and Dr. IRVING took part. The CHAIRMAN closed the discussion with a few remarks and moved a cordial vote of thanks to the Lecturer, which was carried unanimously.

This paper, owing to its author's ill-health, had not been submitted in time to get it in print before the Meeting. After the Meeting he took it away to abbreviate, and the MS. of the discussion was sent to him to revise his reply. It is with most sincere regret that the Council learned that he subsequently injured his foot, when blood-poisoning set in and he died in two or three days. Mr. Edghill had a brilliant University career, and had held

many important offices during his short life. He was Hulsean Lecturer in 1911. The following is an extract from *The Times* obituary:—

“Mr. Edghill was a man of great energy and enthusiasm, and devoted much time and thought to the Children’s Guild, Poor Law Schools, and Annual Boys’ Camp and Boy Scout movements, combining such activities with more definitely intellectual pursuits, he lived a strenuous life, with little regard for the limitations of health and strength.”

534TH ORDINARY GENERAL MEETING.

HELD IN THE ROOMS OF THE INSTITUTE ON MONDAY,  
JUNE 3RD, 1912, AT 4.30 P.M.

LT.-GENERAL SIR HENRY L. GEARY, K.C.B., PRESIDED.

The Minutes of the preceding Meeting were read and confirmed. The SECRETARY announced the following elections:—

MEMBERS: The Rev. J. Iverach Munro, M.A.; Charles Stewart Campbell, Esq., B.A., I.C.S.

ASSOCIATE: Major H. J. H. de Vismes.

The CHAIRMAN then called upon ARCHDEACON POTTER to read his paper.

---

*THE INFLUENCE OF BABYLONIAN CONCEPTIONS  
ON JEWISH THOUGHT.\** By THE VENERABLE ARCH-  
DEACON POTTER, M.A.

I N introducing this question my first duty is to apologize for venturing to undertake to write on it, because the subject is one which needs a master-hand to render it full justice. My excuses must be (1) that I endeavoured to get one who is much better qualified than I to undertake it, but he apparently was unable to find the time; (2) that I think it possible that a person like myself, not an original worker in archæological fields, but only one who studies work accomplished by distinguished men, has some advantage in co-ordinating these results with those attained in other sciences, because his mind being less devoted to one particular study may be more pliable in reconciling the results of several; (3) I have always had an intense conviction, which has grown with years, reading, and thought, that every science is a revealer of God; and that religion gains enormously, and loses nothing in the application

---

\* N.B.—The letters, P., J.E., E., in this paper, refer to the different sections in the Old Testament, as distinguished by the Higher Critics, P. being the latest, supposed not to have been completed till the period of the exile; the others being earlier, their completion dating certainly before 750 B.C.

of scientific results to what we call revelation. No doubt all things are shaken in the process ; but the result is the making it quite clear what are those permanent Divine and important things which cannot be shaken, and remain.

There can be no more fascinating study than that of the influences which preceded and surrounded the beginning and development of the Jewish religion. This religion is the foundation on which Christianity is built. So that if we desire to understand the real meaning of the latter, we must understand the former.

To gain a true conception of a religion, it is desirable to ascertain the conditions under which it took its rise. Unless we were to assume that the historical and scientific setting in which religious conceptions are enshrined was directly and infallibly revealed to men by God, we may suppose that the conditions under which religious thinkers and prophets were born, and the ideas current, at their time and before, in their country and surrounding countries, would influence their thoughts and writings. And as we find out the amount of that influence, we learn to distinguish between the Divinely revealed and the historically developed elements.

With regard to Old Testament teachings, everyone now knows that they correspond in a very marked way with Babylonian conceptions, ever since Mr. George Smith (following Layard and Rawlinson) unveiled the library of Asur-banipal in 1874. This learned Assyrian king compiled his library in about 670 B.C. But in one of the tablets found at Nineveh occur these words: "according to the copies of the tablets of Assyria and Accad I have written on tablets." The Assyrian tablets were therefore copies of older Assyrian and Babylonian ones; and Babylonian duplicates have since been found at Borsippa and Sippara. "These Babylonian copies are of great importance, as they cannot have been taken from the Assyrian tablets, which were probably buried at the fall of Nineveh, but are from older copies in their own libraries."\* Moreover, the creation tablets found at Nineveh give honour to Merodach, not to Asshur, and consequently are Babylonian, not Assyrian in origin. Also a story of the flood has recently been found, which experts date at before 2000 B.C. And the fight between Merodach and Tiamat was found sculptured upon two limestone slabs in the temple of Ninib at Nimrud. This temple was built between 884 B.C. and 860 B.C., and across the sculpture

---

\* *Vide* Boscawen.



was inscribed a dedication to Ninib by this king. This dates back the creation legend to at any rate 200 years before the formation of the library.\* It seems, therefore, clear that the tablets from Nineveh are of much greater antiquity than 670 B.C.

In them the beginning of things is thus described: "At that time the Heavens were unnamed. The chaotic Sea was the mother of all."

In Genesis the deep is called "Tehom." In Babylon, "Tiamat," the dragon conquered by Merodach, was the personification of chaos and darkness. From her body were made the sky and heavenly bodies, like the firmament in Genesis and the lights in it. Consequently, the tablets and Genesis (P.) agree in putting the deep as the first existence. In one tablet Merodach says, "Bone will I fashion." Issamtu is the word used for bone. It corresponds to *esem bone* in Genesis ii, 23 (J.), where Adam calls Eve "bone of my bones."

This tablet also says that Merodach opened his mouth and spake to Ea, telling him what he had conceived in his heart. This corresponds to Genesis i, 26 (P.), "Let us make man."

As Merodach was originally a solar deity, his conquering the dragon may be looked on as parallel with the Hebrew narrative (P.) of the existence of light before the creation of the heavenly bodies. And the dividing of the primeval waters by a firmament before the creation of the heavenly bodies agrees with Genesis; and also the culminating act of creation being that of man (as in Genesis (P.).)\*

In the Assyrian tablets, the stars and night came first in the order of creation, then the sun and the day, the reverse being the case in the Hebrew record (P.); this has been attributed to the nomad life of the earlier people; and would point to an early date (*viz.*, during the nomad period) for the Babylonian legends—the sun, being associated with agriculture, would come first with agriculturists—the moon would come first with persons leading a nomad life.

Another tablet describes the gods calling forth mighty monsters, the cattle and wild beasts by Ea. The lower part of this tablet is mutilated, and it has been supposed might have contained a description of the creation of the human race. And in a hymn to Ea occur these words, "for their redemption did he create mankind, even he with whom is life," and in another tablet occur the words, "may his word be established and not

---

\* *Vide King.*

forgotten in the mouth of mankind whom his hands have created."

Further in the sixth tablet, which was published, I think, for the first time by Mr. King, the creation of man is narrated (and it agrees largely with the long-known account given by Berosus,\* who says that Bel formed mankind from his own blood mixed with earth). The sixth tablet says, "when Merodach heard the words of the gods, he spake unto Ea—my blood will I take, and bone will I fashion. I will create man to inhabit the earth, that the service of the gods may be established, and their shrines built," reminding us of an old Christian conception that man is the priest of nature, made for the purpose of understanding God's works, and praising him for them.

In the mythological tablet, the third of the creation series, occur the words, "the great Gods entered; in sin they join in compact, the fruit they broke, they broke in two. Merodach, their redeemer, he appointed their fate." This reminds us of Adam and Eve tempted by the serpent to eat the fruit in Eden (J.).

The story of Sargon's birth bears an interesting resemblance to that of the birth of Moses (E.). Sargon was the first Semitic king of Babylonia at a date which Nabonidus, a later learned and accurate king of Babylon, places at a period which would be about 3800 B.C. (King, I find in his *Sumer* and *Accad*, puts this at nearly 1,000 years later, and others quote both dates as possible.† However, the latest date given is nearly 1,000 years before Moses.) A tablet preserved in the British Museum gives the story thus, "My little mother in the city of Atsu Pirani, on the banks of the Euphrates, brought me forth in a secret place. She placed me in a basket of reeds, and closed its mouth with bitumen. She gave me to the river, which did not cover me over, but carried me to Akki the irrigator." By the latter he was brought up as a gardener; the goddess Istar prospered him, and he eventually became king of the land.

The great difference between the Babylonian story of creation and that in Genesis is that the former was mainly polytheistic and the latter monotheistic.

---

\* A Babylonian priest, 330–260 B.C.

† Lehmann considers that a scribe employed to copy the original statement of Nabonidus must have misread one stroke too many in the numerals, and thus made an excess of 1,000 years. Others believe that Nabonidus had no means of judging the date of Sargon.

But as modifying this undoubted distinction, Eerdmann thinks that polytheism dominated originally all the narratives of which Genesis is composed. He refers to the passages in chapters i, 26, and xx, 13, as ones in which the original polytheism is still apparent: and others, as *e.g.*, "blessed be the Lord God of Shem," or "I am the God of Abraham thy father, and the God of Isaac," as recognizing Yahweh as one among many Gods.\* Moreover, many Babylonian expressions have a decidedly monotheistic tendency, as *e.g.*, the following: a hymn to the Moon God of Ur and Harran, from which Abraham and his father came, says, "Father long suffering and forgiving, who upholds all living things by his hand; begetter of gods and men, firstborn; omnipotent, whose unfathomable heart none can know; in Heaven and on earth thou alone art supreme. Among the Gods thou hast no rival." This hymn Boscawen considers older than the time of Abraham.

Sinai was called after Sin the Moon God, and it was a sacred place long before Moses communed there with God. Sargon and Naram-Sin conquered Sinai in very early times; in Exodus iii, 1, we read that "Moses was keeping the flock of his father-in-law Jethro, the priest of Midian; and he came to the mount of Yahweh, even to Horeb." This seems to infer that the mountain was so called "the mount of God" before Moses visited it. Driver thinks that possibly Israelites had worshipped Yahweh at Sinai before Moses went there. In 1896, at Kurnah, in the funeral temple of Manephtah, were found the words, "Ysiraal is desolated, its seed is not"; this is in a description of this king's victory over enemies in Canaan, and as these words were written before the Exodus, probably there were Israelites in Canaan before the Exodus (possibly left behind after the famine of Joseph).†

If this were so, we can understand Yahweh and Sin having some attributes in common. Sin had been called "the Lord of laws," "he who created law and justice," "the ordainer of the laws of heaven and earth." And Sinai was the place where Moses received God's laws.

---

\* The Rev. H. T. Knight considers that it was not until the time of Isaiah that the higher conception was reached, that Yahweh was not merely a tribal god, but the god of all the world: and he points out that Jephthah regards Chemosh as having a real existence: that Ruth is content to follow Naomi, and cleave to her people and her God: and that David, when driven into exile, conceived himself as in a land belonging to other gods.

† *Vide* Petrie.

Professor Sayce in 1898 discovered in the British Museum a tablet of the period of Khammurabi, in which occur the words "Yahweh is God"; also in the Kassite period (1500 B.C.) occur the words I-au-bani, "Yahweh is creator," and in a letter written about 1450 B.C., found at Taanach, occur the words Akki-Ja-nu—(like Ahijah)—"Jehovah is brother."

Rogers mentions this, and adds that there can be no doubt that the Divine name Jehovah is not a peculiar possession of the Hebrews, but that "coming from outside there poured into it such a flood of attributes as no priest had dreamed of in his highest moments of spiritual insight." Driver says, "the origin of the name Yahweh is still uncertain." In Exodus iii, 13, we read, "thus shall ye say unto the children of Israel, 'I am' hath sent me unto you." This is an E. passage. In Exodus vi, 3 (a P. passage), we read, "by my name Yahweh was I not known to Abraham, Isaac, and Jacob." These two passages imply that the name originated in the time of Moses. But in Genesis ii, 4, 5 (a J. passage), we read, "the Lord God (Jehovah, or I am) made the earth and the heavens," and in verses 7 and 8, "the Lord God formed man out of the dust, and the Lord planted a garden eastward in Eden," apparently implying that the name Jehovah came from the creation times.

Nebuchadnezzar's prayer to Merodach (about 606 B.C.), written during the Israelitish captivity, shows striking similarities to Jewish religious thought, "Oh, Merodach, firstborn of the goddess, who didst create me, and hast entrusted to me the sovereignty over hosts of men, accept the lifting up of my hands," and in another prayer, found on a clay cylinder, occur the words, "Oh, Prince, thou that art from everlasting, Lord of all that exists, I the Prince who obey thee, am the work of thine hands."

In the prayer of Assur-nazir-pal I. about 1800 B.C., *i.e.*, five centuries before Moses, Istar is described as "the merciful goddess, who loves justice." He prays that "through her turning towards him his heart may become strong." "Thou didst preserve for me the sceptre of righteousness; thou hast granted unto the faithful salvation and mercy. Look on me with compassion; grant me forgiveness."

The prayer of Lugal-Zaggisi (about 3500 B.C.\*), says, "Oh Enlil the king of the lands, may Anu to his beloved father speak my prayer, to my life may he add life, and cause the lands to dwell in security." In a hymn to Shamash the Sun God, first

---

\* Or 2800, according to King.

published by Brünnow, occur the words, "the mighty mountains are filled with thy glance; thy holiness fills and overpowers all lands; at the uttermost points of earth, in the midst of heaven thou dost move; thou dost watch over the inhabitants of the whole earth. Among all the gods of the universe there is none that exceeds thee; who plans evil, his horn thou dost destroy; the unjust judge thou restrainest with force. Thou art gracious to him who does not accept a bribe; who cares for the oppressed, his life thou dost prolong."

Merodach in a hymn is said to be, "he who giveth life and restoreth it; merciful among the gods, who loves to awaken the dead."

In a prayer to Ishtar occur the words, "the fervent prayer of him who has sinned do thou accept, merciful one who accepts sighs." Another prayer addressed to any God against whom the worshipper has sinned says, "the God who is angry with me be appeased—my transgressions are many, great are my sins. My transgressions are seven times seven. Forgive them."

The Babylonian story of the flood is exceedingly like ours. "Oh man of Shuripak, frame a house, build a ship, abandon thy goods, cause thy soul to live, bring into the ship the seed of life of every sort."

The ship was to be as broad as it was high, 120 cubits (in Genesis P. it is  $300 \times 50 \times 30$ ). (In Genesis it was an ark.) It had six decks with seven stories, and nine compartments—bitumen was spread over it for caulking. It was laden with all the man's possessions, silver, gold, the seed of life of every kind, his family, his servants, his cattle, beasts, craftsmen; the ship was launched—a storm came and raged for six days and nights—the ship grounded on Mount Nizir (east of the Tigris) and remained there for six days; on the seventh day Utna-pistim, the Babylonian Noah, let a dove go, and it turned back, there being no resting-place; then he sent out a swallow, and it turned back; then a raven, but it turned not back. He then offers sacrifice on the summit of the mountain.

In Genesis (J.) we read, "I will cause it to rain forty days and nights," Genesis vii, 4 (as compared with the storm above of six days and nights). In Genesis (P.) we read, "the waters prevailed on the earth one hundred and fifty days (Genesis vii, 24). In Genesis (J.) viii, 6, etc., a raven and a dove were sent forth (not a swallow as above). Professor Driver says that, "the substantial identity of the two narratives, the Hebrew and Babylonian, is unquestionable." It was the god Ea who told Utna-pistim of the coming flood. Professor Hommel points

out that the name Ea was in all probability connected with Jah. Ninep speaks of Ea as the one who knew every event. Boscawen says, "The position occupied by Ea in the classical religious texts approaches very near to that of Jehovah in the Biblical narrative." Merodach was his son, "the protector of good men." In certain Chaldean hymns Merodach appears as the mediator between God and man. He was Asari the good one, and greatly resembles the Egyptian Osiris, the god of the resurrection, and of the dead. The similarity of the correspondence between the relationship between Ea and Merodach, with that between Jehovah and our Lord, is very striking.

Professor Hilprecht recently discovered at Nippur (or Niffur)—identified with the Biblical Calneh—another flood fragment, which he considers is not less old than 2005 B.C. A paper was recently read before this Institute by Dr. Pinches on this fragment. It speaks of building a ship with divisions, into which every beast and bird and Noah's family shall enter, and includes the following passages: "I will loosen—it shall sweep away all men together. On as many as there are I will bring annihilation and destruction—build a great ship—it shall be a house-boat carrying what is saved of life, with a strong deck over it, etc." Canon Driver draws my attention to the fact that this text contains no parallels with the P. portion of Genesis *as distinct from the J. portion*, the supposed resemblances being contained only in Hilprecht's conjectured restorations, and depending on a doubtful explanation of a word *Kumminu*. But Genesis vi, 6, 7, and vii, 4, and Genesis vi, 13, the former a "J.," the latter a "P.," portion of Genesis, are both parallel with this fragment; the former says, "it repented the Lord that he had made man on the earth"; and he said, "I will destroy man whom I have created, both man, and the beast and the creeping things, and the fowls of the air—every substance that I have made will I destroy off the face of the earth; the latter (P.) says, "the end of all flesh is come before me, for the earth is filled with violence, and behold, I will destroy them with the earth."

The story of Adapa, preserved in the Tel-el-Amarna tablets (1400 B.C.), reminds one of the "Tree of Life" in Genesis (a J. section). Ea had warned Adapa not to accept meat and drink from the gods, because he feared they would slay him: so Adapa would not eat or drink. But Anu says to him: "Why dost thou neither eat nor drink, for now thou canst not live?" So Adapa missed the immortality which Anu had really intended for him.

Among similarities between the Hebrew and Assyrian

languages, as used on the monuments, are the following: "Bintu," daughter, resembling the Hebrew "Banoth," daughters, and the Arabic "Bint." "Khatanu," father-in-law, from the verb signifying to protect, Hebrew "Khatan." "Sibu," grandfather, Hebrew "Sabah," meaning greyhaired. "Panu," a face, Hebrew "Paneh." "Libbu," the heart, Hebrew "Leb." "Samu," heaven, "Samain." "Naru," a river, "Nahr." "Samas," the sun, "Semes." "Udumu," an ape, Adam the man. "Jibu," a wolf, "Zeeb." "Sarru," a king, from the verb signifying to be bright, "Sar." "Melku," a prince, "Melek." "Resu," a head, "Res." "Pu," a mouth, "Pe," etc., etc. "Abil," a son (Sumerian "Ibila"), is the Hebrew Abel.

As regards the code of Khammurabi, this monarch, probably the Amraphel of Genesis xiv, reigned, probably, 2130-2088 B.C.\* He was the sixth king of the dynasty reigning at Babylon. His code of laws was discovered, December, 1901, by Mr. de Morgan at Susa. At the upper end of the front side of the diorite stone is a bas-relief representing the king standing in front of Shamash the Sun God, and receiving his laws from him (reminding us of Moses on Sinai). In the prologue Khammurabi states that Bel and Merodach had called him to cause justice to prevail, to destroy the wicked, and evil, and prevent the strong from oppressing the weak. He ends by promising blessings from Shamash on all future kings who maintain his laws: and uttering terrible curses on those who alter them. The code contains no ceremonial law, but is confined to civil and criminal law. Driver considers that Khammurabi may have formulated some provisions, but that on the whole his code arranged and sanctioned previously existing laws. King reminds us that Urukagina of Lagash, when he modified existing laws, was dealing with laws similar to those codified by Khammurabi, which shows that Khammurabi's laws were of Sumerian origin. The following parallels between Khammurabi and the Pentateuch are interesting. Khammurabi says that a false witness is to be punished by the *lex talionis*. In Deuteronomy xix, 19, we read "if the witness be a false witness then shall ye do unto him, as he thought to have done unto his brother." Khammurabi says if something lost is found in another man's possession, witnesses are to declare before God what they know, and the thief is to be put to death. In Exodus xxii, 9, there is the same provision, only that the punishment is not death but double payment. Khammurabi

---

\* King puts him a little later.

says that "a man stealing the son of a free-man shall be put to death." In Exodus xxi, 16, we read that "anyone stealing a man shall be put to death." Khammurabi says that anyone striking a father shall have his hands cut off. In Exodus xxi, 15, he is to be put to death. In the code of Khammurabi when a wife gives her maid as second wife to her husband, if this maid makes herself the equal of her mistress, because she has borne children, her mistress shall not sell her for money; she shall put the slave's mark upon her, and count her among the servants. So in Genesis xvi, 5, Sarai spoke to Abraham, "Yahweh judge between thee and me." And Abraham said, "thy maid is in thy hand, do unto her as pleaseth thee." And when Sarai dealt hardly with her, she fled from her face.

Regarding the garden of Eden, Professor Sayce says, "that there is a connection between the Biblical story and the Babylonian legend is rendered certain by the geography of the Biblical Paradise. It was a garden in the land of Eden; and Edin was the Sumerian name of the plain of Babylonia, in which Eridu stood. Two of the rivers which watered it were the Tigris and Euphrates, the two streams which we are specially told had been created and named by Ea at the beginning of time." He adds, "years ago I drew attention to a Sumerian hymn, in which reference is made to the garden and sacred tree of Eridu, the Babylonian paradise in the plain of Eden." Dr. Pinches has since discovered the last line of the hymn in which these words occur, "In Eridu a vine or palm; grew overshadowing."

As regards views of a future life, Professor Sayce reminds us that in Babylon there was no mummification as in Egypt, and that so the horizon was fixed at this life. There is no conception in Babylon like that of the Egyptian fields of Alu—no judgment hall where men are to be tried—the Babylonian was to be judged in this world, not the next, and by the Sun God of day. Professor Sayce adds, "the Hebrew sheol is too exact a counterpart of the Babylonian World of the Dead not to have been borrowed from it": and he concludes, "it is to Babylonia that we must look for the origin of those views of the future world, and of the punishment of sin in this life, which have left so deep an impression upon the pages of the Old Testament. The old belief that misfortune implied sin, and prosperity righteousness, is never entirely eradicated, and Sheol long continues to be a land of shadow and unsubstantiality, where good and bad share the same fate, and the things of this life are forgotten."



Regarding the story of Cain and Abel, Professor Sayce (*Exp. Times*, August, 1910) says that, Yahweh being the God of the West Semitic Bedouins, their best offering would be Abel's, the younger brother's, the firstlings of their flocks. The elder brother, resembling the Babylonian master, would offer the first fruits of his produce.

The Sabbath apparently was of Babylonian origin. The Semitic word *sabbatu* (*sabbath*) was derived from *sar*, a heart, and *bat*, to cease or rest. In the sacred calendar of the months Nisan, etc., now in the British Museum, we read, "the seventh is a resting-day to Merodach and Zarpenit, a holy day—a Shepherd of mighty nations changes not his clothes—must not make a washing—must not offer sacrifice—the King must not drive in his chariot—must not eat flesh cooked at the fire, medicine for sickness one must not apply." G. Smith (ED. Sayce) says, "the antiquity of this text is evident, not only from the fact that it has been translated from an Accadian original, but also from the word rendered prince, which literally means a shepherd, and takes us back to the early times when the Accadian monarchs still remembered that their predecessors had been only shepherd chieftains."

The second part of my subject is an attempt to answer the question "How did these similarities between Babylonian and Hebrew writings occur?" It seems clear from what has been said already that the Babylonian traditions were the earlier: and therefore that they could not have been derived from the Hebrew. On the other hand, there are indications that the Hebrew were not directly copied from Babylonian writings: as is shown by the monotheism of the Hebrew, and polytheism of the Babylonian writings: also the difference in the order of creation in the two accounts precludes direct copying. But the similarities show a common influence: and even in the doctrine of monotheism, the Hebrew seems to have laid the coping stone to a conception, which the Babylonians had been searching after.

There seem to have been three ways in which Babylonian traditions might have reached the Hebrew people: (1) through Abraham. He is said to have come from Ur of the Chaldees, a Babylonian city, sacred to the Moon God. From there he went to Haran, also sacred to the Moon God, and from Haran he came to Canaan. It is quite possible that Babylonian traditions may have begun their Jewish development in the time of Abraham, and that they may have lingered, and been altered during the Egyptian sojourn, and also among the Israelites left in Canaan, according to the belief above mentioned.

But (2) another way in which a knowledge of Babylonian beliefs may have come was through the aboriginal inhabitants of Canaan, on the return of the Israelites from Egypt. It seems quite clear from the Tel-el-Amarna tablets that a widespread knowledge of Babylonian ideas must have been current in Palestine at least one hundred and fifty years before the time of Moses, because these tablets contain letters written from Palestine to the Egyptian king, asking for help against enemies, etc., written in the Babylonian cuneiform script. It seems strange that among these early nations in Palestine the Babylonian language was the vehicle for communicating ideas. It reminds one of the time of our Lord, when Greek was the polite language in Palestine. But if Palestine before Moses was permeated by the Babylonian language, we can understand its being the home of Babylonian religious conceptions. In fact, in view of the Tel-el-Amarna revelation, it would seem strange if there were not a correspondence of ideas between the Mosaic code and cosmogony and the Hebrew. The story of Adapa being among these letters shows that religious conceptions were known in Palestine then.

Bishop Ryle says, "The probability that the Genesis cosmogony is ultimately to be traced back to an Assyrian tradition may be reasonably admitted."

"The ancestors of Abraham were Assyrian. The various creation legends current in Mesopotamia would presumably have been preserved in the clan of Terah."

In a letter which I received from Canon Driver, July 12th, 1911, he says, "Babylonian influence certainly is traceable in the Old Testament, though the extent of it seems to me to have been in some quarters exaggerated. It was mostly, it seems to me, indirect, and it need not, I suppose, have all come in through the same channel, or at the same time."

(3) Traditions may have come through the exile.

Further light may be thrown on this subject by a consideration of the results at which the higher criticism has arrived.

Dr. Sanday is a particularly conservative critic; and he uses the following words with reference to the composition of the Pentateuch. He says, "If we accept, as I at least feel constrained to accept, at least in broad outline, the critical theory now so widely held as to the composition of the Pentateuch, then there is a long interval, an interval of some four centuries or more, between the events and the main portions of the record as we now have it." "In such a case," he adds, "we should expect to happen just what we find has happened.

There is an element of folk lore, of oral tradition, insufficiently checked by writing. The imagination has been at work."

Canon Driver says that, "Two principles will solve Old Testament difficulties: (1) that in many parts of the books we have before us traditions in which the original representation has been insensibly modified, and sometimes coloured by the associations of the age in which the author recording it lived: (2) that often ancient historians merely develop at length in the style and manner of the narrator what was handed down only as a compendious report." Canon Driver also contradicts what apparently Professor Sayce assumed that the belief of the Higher Critics that the Mosaic law (or, to be quite correct, the legislation of P. as a whole) was posterior to the prophets was based on the denial that writing was used for literary purposes in the age of Moses. The Tel-el-Amarna tablets, and the code of Hammurabi, show that it was so used before this age. And Canon Driver adds that critics do not deny that Moses might have left materials behind him, but that the existing Pentateuch is his work.

He also tells us that the age and authorship of the books of the Old Testament can only be determined—so far as this is possible—by the internal evidence supplied by the books themselves, no external evidence worthy of credit existing. As regards the date of the P. portion of Genesis, this writer says: "Though the elements which it embodies originated themselves at a much earlier age, it is itself the latest of the sources of which the Hexateuch is composed, and belongs approximately to the period of the Babylonian captivity." He adds, "the priest's code embodies some elements with which the earlier pre-exilic literature is in harmony, and which it pre-supposes: and other elements with which the same literature is in conflict, and the existence of which it even seems to preclude," and he concludes that "the chief ceremonial institutions of Israel are of great antiquity: but that the laws respecting them were gradually developed and elaborated and in the shape in which they are formulated in the Priest's code belong to the exile or post-exilic period—and were not therefore manufactured during the exile, but based upon pre-existing Temple usage."

An interesting article appeared in the *Nineteenth Century Magazine* of December, 1911, by Rev. E. McClure, in which he gives us information regarding a recent find in Elephantine, Upper Egypt, of certain Aramaic papyri dating from a period between 494 B.C. and 404 B.C. Among them is an epistle addressed by the Jewish colony then existing at Elephantine, to

the Governor of Judaea, a previous one having been sent to the High Priest at Jerusalem, complaining that, their temple having been destroyed by the Egyptians, they could not offer the usual meal offerings, incense offerings and burnt offerings (the terms used for these offerings being equivalent to those used in Leviticus (Mincha, Lebonah, and Olah) ).

As it appears that this colony was founded in probably the reign of Psammeticus I., or Psammeticus II. (594-589 B.C. or 659-611 B.C.), it would appear that these offerings were customary from a period preceding the return from Babylon.

Hommel also finds many other apparent evidences in favour of the view that much of the P. code came down from the time of Moses, among them is the similarity between the description given in Exodus xxviii, 17-20, of the dress of the High Priest, and Erman's account of the dress of the Chief Priest of Memphis in the XVIIIth and XIXth Dynasties (shortly before the time of Moses). Erman describes the latter thus: "From the shoulders or neck two parallel rows of cords descend obliquely to the breast; the cords cross one another, and at every point of intersection there is a little ball or a small ornament (the ankh). There are four rows of these ornaments, each of which is composed of precious stones, and there are three crosses and three balls. then three more crosses and three more balls." The passage in Exodus compared with this (chapter xxviii, 17, etc.) says, "Thou shalt make the breastplate with cunning work, of gold, and blue, and purple, and scarlet, and fine twined linen, foursquare it shall be, being doubled; and thou shalt set in it settings of stones, even four rows of stones—they shall be set in gold in their inclosings." Hommel calls the similarity an "almost absolute similarity which can scarcely be explained except by assuming that it was borrowed by the Egyptians in the time of Moses." But the resemblance does not seem to me clear enough to justify these words. However, the pre-exilic period shows no indications of the legislation of P. (as a systematic whole) being in operation. The place of sacrifice in P. is strictly limited, and severe penalties are enforced when any but priests presume to officiate at the altar, while in Judges and Samuel sacrifice is offered in places not consecrated by the presence of the ark, and laymen officiate. In P. only Aaron's descendants exercise priestly functions; in Deuteronomy, the tribe of Levi (*vide* Driver).

With regard to the date of Genesis xiv, which narrates the battle of the four kings against five, Hommel argues from the form of the name Amraphel that it must have originated from

a cuneiform text dating from the time of the Khammurabi dynasty, as at that period alone do we find the variants Ammurabi and Ammirabi side by side with Khammurabi. Also that the confusion into which the whole text has fallen, from verse 17 onwards, taken in conjunction with the presence of so many obscure and archaic expressions, is the best possible proof of the antiquity of the whole chapter. "Probably," he says, "the original, which seems to have been written in Babylonian, was rescued from the archives of the pre-Israelitish kings of Salem, and preserved in the Temple at Jerusalem." This theory, however, does not conflict with the higher criticism, as expounded by Canon Driver, which does not deny the antiquity of any of the sources of the Old Testament, but asserts that "the Hebrew historiographer is essentially a compiler of pre-existing documents, and not an original author." This chapter (Genesis xiv) is put apart by Driver as coming from a special source; he also points out that, although the four names in verse 1 correspond more or less exactly with those of kings discovered in the inscriptions, at present (up to June, 1909) there is no monumental corroboration of any part of the narrative which follows. Some poetic fragments discovered by Dr. Pinches narrate inroads of Kudur-dugmal or Kudur-luggamal into North Babylonia, Khammurabi being his opponent. (In Genesis they are described as coming together against the King of Sodom and his allies.) Also a mention is made of a certain Tudkhula identified by Hommel with the Tidal of Genesis. Another inscription mentions Iri-Aku, the King of Larsa (corresponding to Arioch of Ellasar in Genesis); and also Kudur-Mabug his father is called the Prince of Martu (the West).

Professor Hommel is also of opinion that the dynasty to which Khammurabi belonged was South Arabian; and that it had introduced into Babylon a doctrine of monotheism which was of great antiquity, and superseded the polytheism of Babylonia; and that consequently Abraham carried with him to Canaan this higher conception; and he explains the fact that Khammurabi's father bore the Babylonian name of Sinmuballit, and his grandfather that of Apil-sin, by the fact that it was customary to adopt the personal names of the country ruled over. But I am not aware that Hommel is supported in this theory by any distinguished archæologist. And to my mind his arguments appear forced and unreal.

As regards Deuteronomy, the completion of this book is put by Canon Driver as before 621 B.C., and possibly at about 630 B.C. But he adds that "the bulk of the laws contained in

Deuteronomy is far more ancient than the time of the author himself." Critics agree that neither the J. nor E. portions of the Hexateuch are later than 750 B.C.; most are of opinion that one if not all are decidedly earlier. Driver considers that both may be assigned with the greatest probability to the early centuries of the monarchy.

David reigned about 1000 B.C. Petrie puts the Exodus at 1230 B.C.

As an instance of the higher critical method I may mention here two passages, which show a somewhat late date for some J.E. portions of the Hexateuch. In Genesis xii, 6, Abraham is said to have passed through the land when he came out of Haran unto the place of Sichem; and it is added, "the Canaanite was then in the land." So this passage must have been written after the Canaanite had ceased to be in the land. Genesis xiii, 7, speaks of a strife between Abraham's and Lot's herdmen, adding, "that the Canaanite and Perizzite dwelled then in the land." And in Genesis xl, 15, Joseph in Egypt says to the butler and baker of Pharaoh, whose dreams he interpreted, "For indeed I was stolen away out of the land of the Hebrews." Shechem could hardly have been called by this name in Joseph's time.

I have dwelt on this critical question only so that we might be able to frame some conception to our minds, taking the theory of the Higher Critics as a working hypothesis (and certainly the evidence they produce is extraordinarily convincing), of the periods and modes by which the Babylonian ideas permeated the Hebrew literature. And to make that more clear I now propose to examine the question as to which of these sources (P., Deuteronomy, J., E., or J.E.) contain the greater resemblances to Babylonian writings, so as to guide us in guessing in what way they became appropriated.

In the Priest's Code we find in Genesis i, 2, the word Tehom, the deep, corresponding to the Tiamat of the Babylonian account. In chapter ii, 2, etc., we read, "God rested on the seventh day, and God blessed the seventh day because he had rested on it." A great part of the story of the flood is also in P.; the story of making the ark, of bringing in every living thing, two of every sort—that the rain began in the second month, on the seventeenth day of the month; that it continued on the earth one hundred and fifty days (the forty days of chapter vii, 17, not being a part of P.)—the going out of the ark—the placing of the bow in the cloud.

The Jehovah portion of Genesis contains the second account of the creation, beginning chapter ii, 4, in which man is said to

have been first formed, out of the dust, and placed in Eden, and then afterwards out of the ground God is said to have made every beast of the field, and fowl of the air, and the woman out of man's rib (instead of as in P. both apparently together). In J. (chapter vii, 1-5) clean beasts go into the ark by sevens.

In this account man was said to have been created before the plants or herbs existed. The vegetable and animal world are represented as coming into existence to satisfy the needs of man. Whereas in the P. account (in chapter i) the order is the plants first, then animals, then man. This is more scientific, and doubtless later, if the completion of P. was exilic. Could it have been that during the exile Babylonian and Hebrew traditions were compared; and the former inserted by the later compiler side by side with the older Hebrew one. Both apparently sprang from a common original. But were developed in parallel lines, and then apparently were written in, side by side, without any attempt to harmonize, which certainly speaks highly for the honesty of the compiler.

In a bilingual text—one version being Sumerian, the date of which Professor Hommel puts back to the fourth millenium B.C.—published by Dr. Pinches in 1891, the order of creation agrees with the J. account in Genesis ii—creation of man in it preceding that of the plants and animals. It seems possible that the J. account may have been derived from this early Babylonian tradition, and that the later tradition current at the time of the exile may have originated P.

As regards the Babylonian stories of the flood preserved in Asur-banipal's library, they seem to agree in some particulars with the P. account in Genesis—in others with the J. account. With the former as to the building of the vessel in stories, and using pitch to make it watertight, as to the resting of it upon a mountain, as to a kind of promise that mankind should not so again be destroyed. With the latter as regards the seven days' warning before the coming of the deluge, as to sending forth birds to find if dry land had appeared, as to the offering of a sacrifice with a sweet savour. The story of the garden of Eden in Genesis is a J. story. So is the story of the tree of life, with its resemblance to the Adapa story.

But the question arises, do we not lose our faith in revelation when we admit the derivation of Scriptural stories from Babylonian myths, or traditions. Assuredly not, if we realize what revelation really means. It means the conveyance to the mind and soul of man of spiritual and moral truths, conceived and expressed in terms of man's limited and imperfect knowledge of scientific and historical events.

If we had reason to believe that real spiritual truth could not be conveyed except through the medium of perfect human knowledge, then the discovery of derivation from myth or imperfect tradition might spoil our faith. But this is a wrong conception. Our Lord himself must have been limited in his historical and scientific knowledge, for, if not, why did He sit at the feet of the doctors, hearing them and asking them questions: but if His human knowledge was imperfect, much more that of the ancient writers of the Jewish Scriptures. Inspired they were, doubtless: and yet not so perfectly as was the Perfect Man. But as in His case, so in theirs, their inspiration was of things concerning the soul and spiritual life, not of matters which concern the intellect and material things.

But we may go further, and hold that in Old Testament records the writers showed their special and higher inspiration by framing their record into a form which taught nobler and higher truth.\* This was notably so with regard to the oneness of God, which comes out clearly in the Hebrew and very dimly, and only occasionally, in the Babylonian records. If men would only clearly perceive and grasp this fact that revelation and inspiration do not convey certain knowledge of any kind to man except that which directly acts on human will, desires and life, many misconceptions would be cleared away. We should no longer seek for the impossible and unrealizable attainment of infallible truth of a non-spiritual kind, the search for which has led into divisions and strife and false pretensions all through the history of the Christian church, and now divides the Christian world. But we should attain that real unity which our Lord prayed for, based upon a common acceptance of common truths, which, however, contain no element at all in them, but that which acts directly on spiritual life.

A clear grasp of this principle would also aid in solving a question now exercising the minds of those in authority in the Church, viz., when and how far is it their duty to inhibit

---

\* In saying this, however, I do not mean to imply that the Babylonian myths and legends were not also a form in which revelation was conveyed. I do not think we have any right to assume that revelation or inspiration are limited to Jewish and Christian writers. Through history, myth, and legend, all nations have expressed truths revealed by God's Spirit to man's spirit. But Judaism and Christianity were higher forms in which these truths were conveyed, as men had been prepared by other teachers to receive these higher truths.



clergymen from teaching and ministrations whose views of Christian dogma differ from those usually accepted as correct. The answer is perfectly simple to those who realize the above principle. Men's reason must be left free to act, reason being a divine gift to man. But if they are led or mis-led by it to believe and teach things *which degrade or spoil spiritual and moral life in man*, then it is the duty of authority to safeguard the deposit of spiritual truth, revealed through Judaism and Christianity. Where authority has so often blundered, and that it has done so was admitted by Bishop Talbot in his article in the *Nineteenth Century* of November, 1911, was in coercing men to accept beliefs which have no direct relation to spiritual life. A man may be quite as good a man if he holds with Galileo that the earth goes round the sun, as he would if he believed, as the Ptolemaic system taught, that the reverse was the case. The modern Roman doctrine of infallibility admits this, because its distinction between fallible and *ex cathedra* pronouncements is simply the same as that between scientific or historical and spiritual truth.

No right-minded churchman will complain of the exercise of authority in matters of dogma, if it is manifestly and clearly guided by this principle.

Another enormous gain following the admission of this distinction would be the confining of men's religious energies to questions of real importance.

It seems to me one of the saddest phases of our modern and mediæval Christianity that we magnify out of all due proportion questions which are comparatively unimportant, and, spending our energies on these, have too little time or strength left to do the real work of our Master, like the Pharisee of old. *E.g.*, the differences between different sections of Christians in dogma and in ceremonial drive out the thought of the duties in which all should join—the spreading of spiritual truth, so as to influence daily life. But the former is the human, the imperfect, the doubtful; the latter the certain, the divine, the important.

All these advantages may come as the direct result of the work done by archæology, science, and the higher criticism. Instead of injuring divine truth, they clear it from the mists of ignorance, superstition, and unreality. Christianity (seen as these sciences show it) is an infinitely nobler thing than it was before, *viz.*, what it was in the time of its Founder, before later accretions destroyed its beauty, reality, and purity.

Another point worthy of consideration is the question how

far the unsettling of old beliefs tends to destroy religion: It is true, no doubt, that much real piety has been built up on doctrines which are scientifically indefensible. But the destruction of these doctrines will not injure religion so far as it is real, *e.g.*, a man brought up to believe in eternal punishment for the individual who has not lived well on earth may be constrained to an unreal kind of religion through fear of consequences; and when he understands that eternal punishment for the individual is not believed by later teachers, he may relapse into worldliness. But if he does he only proves that his religion was not religion, but only an outward semblance of it, and is of no value to man's higher nature. True religion does not live on fear. Or again, if you tell men that God did not write with his own finger on tables of stone, but that Moses taught legal and moral truths which were known in less noble forms long before his time, it will not make the really religious man less religious nor the law of moral obligation less binding, but rather more so.

But one great boon comes from the investigation of these questions—it prepares the world for views which must come home before long, by which men may be led away from true religion.

Is it not better that those who are firmly convinced of the truth of religion should examine into scientific questions, and show how, though these alter the shell, they do not touch the kernel of vital truth, than that the investigators should be men of no belief, who use their science to destroy faith?

#### DISCUSSION.

Mrs. WALTER MAUNDER said: I have asked permission to speak because the private scientific work on which I have been engaged for the last eight or ten years has led me into the same field of enquiry as that covered by Archdeacon Potter's paper. My work of course had no theological purpose but the purely scientific one of comparing and so dating the astronomical conceptions of various ancient peoples. But in the course of this work, I could not fail to take account of how strong an influence Babylonia had on the surrounding nations; on the Jews among others.

What is the true scientific method of conducting an inquiry into

the influence exerted by one body upon another? Surely it is to take as many instances as we can find wherein that influence is known, and well established, and from them to argue to more difficult and doubtful cases. Now we have the material for making a definite determination of the character and amount of the Babylonian influence; and as it happens, it is with that material that my work has been concerned. First of all, with the cuneiform references to the heavenly bodies, early or late. Next with the works in Greek, written by a contemporary of our Lord, the Great Mage, Teuchros the Babylonian, who exerted a profound influence both on his own countrymen and on the surrounding nations, and through them on the Middle Ages, and so on even down to our own time. Then—in the order of my study—the astronomical references in the Talmud; then similar references in the Apocrypha, and lastly in the Bundahis, that is to say, the Zoroastrian work on the creation. Now these last are of the same epoch as the New Testament writings—and the Apostolic writers were Jews, born, brought up like other Jews, subjected, like them, to the Zeitgeist, or Spirit of their Age. Now the spirit of Babylon is the same from the earliest time that has given us any cuneiform inscriptions, right down to Berossos and Teuchros. And also the Spirit of the Old Testament is the Spirit of the New Testament. If then the spirit of Babylonian conceptions inspired the Old Testament, the same spirit should be apparent in the New Testament. But now we can determine what the Babylonian influence should be, for it is not only clear, but paramount in the Jewish and Persian writings contemporary with the Apostolic writings. The Talmud, II Esdras, and the Bundahis, all bear the hall-mark of Babylon, and this hall-mark is incantation and the magic power of number. In cuneiform literature, if we put on one side the business contracts and political annals, then the rest mainly pertains to magic; the very Epic of Creation itself is but the preamble to an incantation. Nineveh is called by the prophet “the mistress of witchcrafts,” and the same is even more true of Babylon in all ages. And this magical element is not incidental to Babylonian conceptions, it is fundamental. In the Creation epic, Marduk himself got his power over Tiamat by the magic spells with which he was equipped by the other gods. And just in the same way, in Zoroastrianism, Ahriman, the evil spirit, is thrown into confusion for 3,000 years when Auharmazd, the supreme deity, recites the

X Rev: XVII, XVII

Ahunavar, that is the twenty-one sacred Avesta words, which begin "When a heavenly lord is to be chosen." This is neither a prayer nor a creed, but a formula, or incantation; so that in the purest religion outside Judaism, an incantation is nevertheless counted as having greater power even than God Himself. The Talmud simply reeks with incantations.

In the Apocryphal book of Tobit, perhaps from a literary view one of the best books in the Apocrypha, we are introduced to both demons and spells. The author of II Esdras, being more intellectual, is great on mystical numbers. But from the first chapter of Genesis to the last chapter of the Revelation there is not an incantation nor a reference to the power of a magic number. The whole of the Bible is clean as driven snow, clean from the Babylonian imprint. To speak of these writings as being influenced by Babylonian conceptions, when there is no trace of Babylonian sorcery in them, is to speak in ignorance of what Babylonian conceptions really were.

The Rev. W. H. GRIFFITH THOMAS, D.D., said: I am afraid the differences between the writer of the paper and myself are too fundamental to allow of any proper detailed criticisms of his paper, but the following points seem to call for special notice:—

1. His view of revelation is seriously open to question and does not seem consistently expressed. On p. 300 he speaks of the conditions under which religion "took its rise," and he distinguishes between the historical setting and the religious conception. This, at once, raises the question as to the origin of religion. Did it "take its rise" from above or below? Is there such a thing as primitive revelation, or are we to assume that religion emanated from man? When all the possibilities have been exhausted it seems essential to contend that Genesis i is either a divine revelation or a human composition. The precise form or channel of the information is unimportant; the real question is as to its *source*. So also on p. 315, revelation is said to mean "the conveyance to the mind and soul of man of spiritual and moral truths . . ." Does not this confuse between *substance* and *form*, between source and channel, between revelation and inspiration? We are not really concerned with the precise conveyance or method; what we need to know is the reality of the spiritual and moral truths conveyed.

2. On p. 300 f. we are rightly told of the remarkable correspondences between Babylonian and Old Testament records. But the differences

have also to be accounted for, and we must endeavour to discover the most likely theory to explain the correspondences. It is impossible that Babylon copied from Genesis, and equally impossible that Genesis copied from Babylon, in view of the purity of the former, and the impurity of the latter. It is hardly likely, or even credible that the Jews copied from their captors, and so late as the exile, especially when other nations had their records of creation centuries before. Why may not both records have come from the same primæval source, with Genesis preserved in its purity by means of the divine superintendence associated with Abraham and his descendants? There is no insuperable difficulty against Abraham having brought the story from his Babylonian home. As to the fundamental differences, how is it that the Babylon story starts with the chaos of Genesis i, 2, and has nothing corresponding to the sublime statement of Genesis i, 1? How is it, too, that there are no ethnic traditions after Babel?

3. On p. 302 it is said that the great difference between the Babylonian and Genesis story is that the former was mainly polytheistic and the latter monotheistic. True, but the *cause* of this great difference needs to be emphasized. How are we to account for a man in Palestine writing as a monotheist amidst the polytheism of all the surrounding nations? Is not divine inspiration required here?

4. While it is not fair to attribute to Archdeacon Potter an endorsement of Erdmanns' view that polytheism originally dominated all the narratives of Genesis, and that this is still apparent in some passages, it would have been well if some definite criticism of the view had been concluded, because we know how tenaciously the Jews clung to their monotheism and how they scorned every form of polytheism. It is difficult to understand how any trace of polytheism could have been allowed to remain in the Genesis narrative in view of the Jewish belief in that book as part of their sacred scriptures.

5. The note on p. 303 quoting the Rev. H. T. Knight is a familiar illustration of the misconception of the Critical School as to David's exile and its consequences. A reference to Robertson's *Early Religion of Israel*, written twenty-five years ago, ought to have been sufficient to show that David did not conceive himself when outside Palestine as in a land belonging to other gods.

6. From time to time Archdeacon Potter seems to endorse the documentary theory of Genesis, and in particular he discusses the Flood story in this connection. Professor Sayce has long ago shown that the Babylonian Flood story, written ages before the times of J. and P., exhibits marks of both, and hence that the documentary theory utterly breaks down when tested in this way. Dr. Sayce rightly alleges this as a crucial test of the theory. There are other points connected with the Archdeacon's discussion of the Flood which are equally open to question.

7. On the subject of Deuteronomy, the Archdeacon seems to favour the critical view which places the completion of this book as dating from the time of Josiah. This is frankly admitted by both conservative and critical schools to be a crucial and vital issue in the controversy, and the conservative school gladly accepts the challenge, believing that on grounds of pure scholarship alone, apart from all else, the essentially Mosaic date and character of Deuteronomy is beyond all question and the Josianic date is absolutely impossible. This has been recently proved by the Rev. J. S. Griffiths in his *Problem of Deuteronomy*.

8. On p. 314 Archdeacon Potter speaks of the evidence produced by the Higher Critics as "extraordinarily convincing." I can only speak for myself when I say that as a result of reading of critical books of importance I find their position extraordinarily unconvincing, and I have been confirmed in the position of conservative scholarship very largely through the reading of critical works.

9. On p. 315 the Archdeacon regards the so-called creation stories of Genesis, placed side by side without any attempt at harmonization, as speaking highly "for the honesty of the compiler." He does not, however, say anything about the capacity of the editor, still less of the capacity of the readers, to have left these two (alleged) discordant passages side by side. It surely reflects very seriously upon the capability of the editor, who is admitted by all to have brought our present Genesis into unity. Either this, or else the editor must have thought that his readers in all ages would never be able to discover what had been done.

10. The reference on p. 316 to the limitations of our Lord's knowledge is another instance of what seems to me to be the writer's lack of thinking out a subject to its conclusion. Surely limitation or imperfection of knowledge does not imply error. What our Lord

knew He *knew*, and His testimony to the Old Testament involves not only His own power, but the authority of the Father behind Him, Who gave Him every word to speak (John xii, 49).

11. On p. 316 the Archdeacon says that "Revelation and inspiration do not convey certain knowledge of any kind to man except that which directly acts on human will, desires, and life." But he does not tell us how we are to distinguish knowledge of this kind from the other elements of knowledge contained in Holy Scripture. If a Biblical writer is proved to be inaccurate on points where I can verify him, how can I trust him on points where I am unable to verify him? There is much more in the same paragraphs on pp. 316 and 317 on this point which seems to me seriously open to question.

12. Some few years ago Dr. Burney of Oxford argued very forcibly, and, as many thought, conclusively, in the *Journal of Theological Studies*, for the Mosaic authorship and date of the Decalogue. Whereupon Dr. Hastings of the *Expository Times* admitted that if Dr. Burney's contentions were right the critical view of Israel's religion would necessarily fall to the ground.

13. Dr. Sellin of Vienna in one of his recent works said that it is time for the masters of the Wellhausen school to write at the top of their copy-books that there is no valid argument against the Mosaic date of the Decalogue and its religion.

14. Archdeacon Potter refers to Canon Driver's words to the effect that the age and authorship of the books of the Old Testament can only be determined by internal evidence since there is no external evidence worthy of credit in existence (p. 311). I venture to think, that this, to put it mildly, minimises, if it does not overlook, the external evidence of archæology, as well as quite a number of internal features which are not explicable on the critical theory. Does it not count for something that in view of the mass of archæological discoveries during the last sixty years not a single "find" has gone to support any of the fundamental theories of the critical position, while discovery after discovery has gone to support the conservative view? And is it not at least noteworthy that many leading archæologists, like Sayce, Hommel, Halevy, and others have become convinced of the untenableness of the documentary theory, some of them after having endorsed and advocated it? In Genesis x, 22, Elam is associated with Shem, and this is used by Dr. Driver as an instance of the inaccuracy, or at least the

imperfection of the information of the writer. Dr. Driver admits that there is monumental evidence that Elam was associated very early with the descendants of Shem, but considers that this is a point which the writer of Genesis was not likely to know! But as the text clearly implies, this is exactly what the writer really did know, and when Genesis and the monuments agree it seems impossible to maintain the critical position simply for the purpose of justifying the general documentary theory. Again, in Genesis x, 19, we have a reference to Sodom and Gomorrah used to describe a geographical location, and the *prima facie* view of the verse is that it dates from a time when Sodom and Gomorrah were in existence. Now it is well known that these cities were blotted out beyond all knowledge in the time of Abraham, and yet on the critical theory, this verse, which is attributed to J., dates from at least a thousand years after the time when the location of Sodom and Gomorrah was lost beyond recall. Is such a position credible? Does not this, and much more, as adduced by Rawlinson, imply that in Genesis x, we possess materials far earlier than the time of Moses?

15. The fundamental question at issue between the two schools is the historical accuracy and trustworthiness of the Old Testament as it stands. Can we rely upon its presentation of the history of Israel and of Israel's religion? If it is not trustworthy from the standpoint of history it seems unnecessary and futile to discuss its divine authority and inspiration. But if we may assume that in some way or other the Old Testament is divinely authoritative, it is difficult to understand how we can accept this if we maintain that its historical pictures are untrustworthy on matters of fact. Herein lies the fundamental difference between Archdeacon Potter's view and my own. He appears to favour the well-known theory of Wellhausen, but he seems to me to be unconscious of the fact that the world of scholarship has been moving very far and very fast since that theory was propounded. This is abundantly evident from such works as Wiener's *Studies in Biblical Law*; *The Origin of the Pentateuch*; and *Essays in Pentateuchal Criticism*; Griffiths' *Problem of Deuteronomy*; Beecher's *Reasonable Biblical Criticism*; to say nothing of other works issued in Germany and Holland. Until these and similar conservative works are carefully met and answered we have ample warrant for rejecting the Wellhausen position.

(The Editor has kindly given me the opportunity of carefully



considering, revising and amplifying the remarks I actually made.—  
W. H. G. T.)

Rev. J. J. B. COLES, M.A., said: From what sources were the  
Babylonian myths and traditions derived?

In the comparative study of ancient religions an all-important  
point is the question of origins.

The origin of the religious faith of Abraham and the Patriarch  
was the revelation of God which he communicated to them person-  
ally and by the Mouth of His prophets since the world began.

Genesis contains the written record of these earlier revelations,  
and the oldest signs and symbols of the human race corroborate  
these direct revelations and the subsequent written records of  
them.

Abraham, Isaac, and Jacob, and Hebrew believers after them, had  
no need to accept Babylonian traditions, and there is no evidence  
whatever to show that they were indebted to them for their religious  
conceptions, but on the contrary they knew that they were  
surrounded by peoples who had corrupted primitive revelation and  
who had debased and perverted the true meaning of the earliest  
religious signs and symbols through their false system of astro-  
theology.

The similarities between Babylonian and Hebrew writings are to  
be accounted for by the perversions and corruptions of an earlier  
faith—on the part of those from whom Abraham and Isaac and his  
descendants were instructed by God to separate themselves.

The promised "Seed of the Woman" would eventually spring from  
that Olive Tree of Promise, and to the descendants of Abraham,  
Isaac, and Jacob were committed "the living oracles of God."

Abraham doubtless saw through the astrotheology of the  
Babylonians and Accadians, as Moses later on saw through the  
Egyptian Osirian myths—for he was "learned in all the wisdom of  
the Egyptians."

The most fruitful source of Babylonian mythology was the early  
perversion of the symbols of the cherubim and the constellation  
figures which the patriarchs had mapped out in the heavens before  
Babylon became a nation.

These early symbols embodied the prophecies of the Coming  
Redeemer and to the perversion of these signs may be attributed  
most of the myths and legends of antiquity.

There is not, therefore, the slightest necessity to "admit the derivation of scriptural stories" from Babylonian myths or traditions. It is an anachronism.

The comparative study of religious origins, both from the exoteric and esoteric standpoint, can never be complete unless it includes a knowledge of the origin and migration of the religious symbols of antiquity.

Dr. THIRTLE took the chair on Sir Henry Geary's having to leave and said: It has been suggested that the Hebrew scriptures embody Babylonian traditions, and this has been declared to be possible (1) Through Abraham, who came from Ur of the Chaldees; (2) Through the contact of the Israelites with the aboriginal inhabitants of Canaan, who had previously come under Babylonian influence; and (3) As a consequence of the Jewish exile in Babylon in the sixth century before Christ.

Against this suggestion I raise a bar, at once historical and psychological. Knowledge and reason conspire to render such theorising out of the question. (1) True, Abraham was from the Chaldees' country, but he was not only an emigrant in a physical sense, but one who *came out morally and spiritually*. This fact is on the surface of the story; at the call of God he became "a stranger in a strange land," in order that he might be the progenitor of a special and peculiar people.

(2) As to the aboriginal inhabitants of Canaan, it is quite clear from the history that those of them who were allowed to live were not permitted, as heathen, to share the social and religious privileges of the people of Israel. They were not accorded the rights of citizenship, and intermarriage with them was accounted a sin (I Kings ix, 20; Ezra ix, 1, 2).

(3) As to the exile, though it was a time of national bondage and sorrow, yet it was an experience which did not subdue the spiritual consciousness of the nation. With eyes stretching toward their own land, the Jews were *in* Babylon, but not *of* Babylon. We have every reason to conclude that, at that time, even as since then, though receiving all and sundry ideas from the Gentiles, the Jews resolutely set themselves against absorbing the *religious* ideas of other nations; that then, as since, they exhibited a spirit of conservative exclusiveness such as no other people has been known to exemplify. It is a trite remark that, while in Babylon, the Jews

were effectually cured of all tendencies to idolatry. True: but what follows? Assuredly this—that at such a time they could not be docile learners in the school of heathen mythology, and so digest such things as, at length, to give them a place in their sacred literature—the most precious possession of the monotheistic nation.

I am constrained to add that both Old and New Testaments make it clear that the Jewish nation stands alone. The Jews are the people of the Book; and it is difficult to believe that they could have played their divinely-ordained part if Babylonian influences had mingled with the springs of their national life. As pointing to Christ, the Old Testament in the providence of God has been invested with a dignity suited to its high purpose and vocation; great honour has been put upon it. In such circumstances we ask, “What can the mind of the flesh in Babylon yield for the service of the Spirit of God?” Having regard to the relation of the Old Testament to Christ, we answer, “It can yield nothing—nothing Prophetic, nothing Priestly, nothing Messianic, as these functions were consummated in Him whom we call Master and Lord.”

The CHAIRMAN then put the resolution of thanks to Archdeacon Potter for his interesting paper, and it was carried unanimously. The Lecturer replied and the meeting closed.

(Archdeacon Potter has, on receipt of the following written communications, kindly revised his reply so as to cover the additional points raised.—EDITOR).

#### WRITTEN COMMUNICATIONS RECEIVED.

The Rev. CHANCELLOR LIAS writes:—

The Institute is indebted to Archdeacon Potter for giving it an opportunity of discussing a most interesting and important question.

After claiming the right to criticize the critics, Chancellor Lias complained of their disregard of replies and proceeded:—I once read a critical treatise on the Old Testament by a distinguished critic, which proceeded on the following lines: *This*, we were told, “may be,” *that* “must be,” something else was “probable” and from these uncertain data a conclusion was triumphantly deduced. So largely is this extraordinary mode of demonstration practised that a man of scientific training once said to me that the stages of critical argument appeared to him to be these: “may be, probably,

must be, was." I have studied modern methods of Biblical criticism from Wellhausen downwards for nearly thirty years, and I have found this description, as a rule, to be perfectly true. The utmost theoretical ingenuity, the utmost industry, is displayed. But seldom have I found anything approaching to a demonstration. And the fact, to which I have already referred, that criticism of results, which is the very breath of the life of scientific research, is regarded rather as an insult to the intelligence than as what it really is, the most necessary road to the establishment of truth.

The present paper is no exception to the rule. In the time allotted to me I can give but a few instances. In p. 301 we are told that "from" the "body of Tiamat were made the sky and heavenly bodies, like the firmament in Genesis and the lights in it." But the firmament and the lights in it are never said to have been made "from the body" of Tehom. Then we repeatedly have such remarks as "this has been attributed" to something or somebody, somebody "thinks" this or that. But with respect, I would point out that we don't want to know what this or that authority "thinks," but how he can prove what he "thinks" to be true.\* We are told what "Eerdmanns thinks" in p. 303. But we are not told that Eerdmanns (a more "advanced" critic than Wellhausen) also thinks that the J., E.D. and P. theory of Wellhausen must be given up. Then (p. 306) we are told, *in italics*, that Professor Hilprecht's flood fragment "contains" no parallels with the P. portion of Genesis *as distinct from the J. portion*. But if we are told this, we ought to be told, also *in italics*, that the "Babylonian story of the flood as contained in Mr. George Smith's version of it described in pp. 300, 301, shows us portions of "P.," supposed to be indisputably a post-exilic version of that story, embedded in the J.E. version at a period

\* Thus we are told that the Rev. H. T. Knight "considers that it was not until the time of Isaiah that the higher conception (of God) was reached." Jephthah never says that he thinks Chemosh "had a real existence." He only argues with the Moabites on that assumption. Ruth, the Moabitess, at that stage of her existence, was hardly an authority on Israelite beliefs. And it is never said that David "conceived himself" when in exile, "as in a land belonging to other gods." What is stated (1 Sam. xxvi, 19) is that "the children of men" allowed him no share in the inheritance of Israel, but practically bade him go and serve other gods, since he could never worship his own as he was commanded to do.

declared by some competent archæologists to have been *before the time of Abraham*.\* For "may be" or "might be" see pp. 309, 310.

Into the question of the priority of one or other of the documents I cannot enter at length. But competent authorities on Theism have lately assured us that the general trend of opinion on that question at present leads to the conclusion that Monotheism preceded Polytheism. And there is also the unquestioned fact that religions, as a rule, tend rather to *decay* than to *develop*. It is not, therefore, open to Biblical critics to take any theory for granted on such a subject. Their contention must be proved by the most rigorous methods of logic.

Canon S. R. DRIVER writes :—

I read your paper with interest. I hope it was well received. Your concluding remarks on the general subject seem to me particularly just, and I hope that their force was generally recognized.

The Rev. R. M. CURWEN writes :—

As regards inspiration, I gather you preclude from its sphere historical truth, facts of science, etc. But this seems limiting the field of inspiration. Is there not an artistic inspiration? Is not the inventor inspired in the application of physical laws? Was not the discovery of evolution an inspiration?

I am quite in agreement with and full of appreciation of your paper.

The Rev. A. IRVING, D.Sc., B.A., writes :—

On p. 300 the author says :—"The Old Testament *teachings* correspond with Babylonian conceptions." They do nothing of the kind. The Old Testament is *monotheistic* in its *teaching* from first to last, as the author recognizes in the second half of the Paper. Here, surely, he confounds the "teachings" of the Old Testament with the *literary materials*, which have served as the medium for conveying those teachings; quite a different thing.

In contrasting the monotheism of the Genesis Story with the grotesque polytheism of the Babylonian myths, the author might

---

\* Sayce, *The Higher Criticism and the Monuments*, p. 33. In pp. 107-113 he shows how P., *as separated by the critics*, is as distinctly embedded in the Babylonian Epic as J.E. For the date see also p. 301 of the present paper.

have given fuller weight to the *purging process*, in adapting what we may call the "human" materials found ready to hand. It is here that some of us see the "Inspiration of Selection" at work. On this point the writer might do well to make the acquaintance of what Dr. Wace, the Dean of Canterbury, has said in his lecture at University College in 1903; and it is no straining of language, surely, to see this in that pouring into the name of Jehovah that "flood of attributes" referred to on p. 304.

On p. 311 Professor Driver is made to contradict Professor Sayce's assumption "that the belief of the Higher Critics that the Mosaic law was posterior to the prophets was based on the denial that writing was used for literary purposes in the age of Moses." Dr. Wace has dealt incisively with this point in the lecture already referred to. We scarcely need Dr. Driver's assurance that critics have not the hardihood (*after* the discovery of the Tel-el-Amarna tablets and the Hammurabi code) to "deny that Moses might have left materials behind him." So that it comes to this—that Moses may after all have been *substantially* the author of the Pentateuch, although the *literary form*, in which it has come to us, may bear the "cast" of a later age. This is all, I think, that serious research needs to demand. But this reminds one of the stern strictures of Professor Sir William Ramsay, of Aberdeen, on the *methods* of the Higher Criticism, in his most able paper in Vol. xxxix of the *Transactions of the Victoria Institute*.

As regards the general question we may do well to refer to what the Rev. J. Urquhart says in the concluding paragraph of his very able essay, for which the "Gunning Prize" was awarded (*Transactions of the Victoria Institute*, Vol. xxxviii):—

"It is not too much to say that *within the sphere of genuine science* which has concerned itself with scripture statements there is to-day a higher appreciation of the antiquity, veracity, and historic value of the Bible than was to be found in any previous period since the march of modern science began."

The weakness of the author's position seems to display itself in the two concluding paragraphs of the paper, where he (1) falls back upon the unscientific process of *prophesying* what we shall know before we know it, apparently forgetting that "views" are only working hypotheses liable to be corrected by fuller knowledge; and (2) shifts the ground of debate as to the validity of *revealed religion*

(as contained in the Bible) to the question of "religion" in general.

No one, however, can fairly find fault with the Victoria Institute for allowing this matter to come up for discussion, even though the present rather laboured effort may be felt by some of us to be but a very lame apology for the "Higher Critics."

Mr. JOHN SCHWARTZ, Jun., writes :—

Our able lecturer has clearly enunciated the main point at issue (on p. 300) "Unless we were to assume that the historical and scientific setting in which religious conceptions are enshrined was directly and infallibly revealed to men by God;" and this assumption it is increasingly difficult to hold with an ampler knowledge and broader point of view.

He deals on p. 303 with that difficult problem that in Manepthah's reign (the reputed Pharaoh of the Exodus) Israelites were conquered in Canaan; and again on p. 310 to the Tel-el-Amarna tablets which record Amenhetep III.'s conquest of the Abiri or Hebrews in Palestine 150 years earlier. This king married a Semitic princess Thi, and his son introduced a pure monotheistic worship, probably inherited from his mother. Lieut.-Colonel Conder, in his interesting book *The Hittites*, argues very forcibly that the Exodus took place at this earlier date, about 1480 B.C., which agrees with the Babylonian, Assyrian and Hebrew chronology, 1 Kings vi, 1, and asserts that the Sosthic year Egyptian calculations are inconclusive.

Canon GIRDLESTONE writes :—

I have read Archdeacon Potter's paper with surprise. Whatever its object, its effect would be to reduce the historical character of the Bible, which it is the desire of the Victoria Institute to uphold. Its sting is in its tail, for we are told (p. 316) that Christ must have been limited in his historical and scientific knowledge because HE questioned the doctors!

Going back to the beginning, the narrative concerning Eden is dismissed as a J. story (p. 315), and the text of Genesis 2 is read in such a way as to produce the impression that man was made before the animals, the words "first" and "afterwards" being calmly inserted to prove it. Petrie's date for the Exodus is apparently accepted (p. 314), although it is, in the judgment of Canon Cook, Colonel Conder, and others, quite inconsistent with the scripture, and then a reference to Israel lately found, and inconsistent

with Petrie's date, is made to prove that "there were Israelites in Canaan before the Exodus" (p. 303).

The numerous passages about the Flood ignore Mr. Maunder's important view in his *Astronomy of the Bible*. A futile attempt to make Deuteronomy inconsistent with Leviticus is fortified by the words "*vide* Driver." Dr. Driver must be thankful that this formula was not used to support the Archdeacon's astounding derivation of *Sabbath* (p. 309, as "*Sar*, a heart, and *bat*, to cease.") Personally, I decline to be driven from the view (which 50 years' study has deepened) that Bible history is composed by prophetic men from autobiographical and official documents. May I add (i) that we must always allow for transliteration and annotation, (ii) that the later writers used the earlier all the way through, (iii) that there is stratification in the use of Hebrew words and names which will repay examination, (iv) that the books contain a record of what God has said and done, and that they were intended to prepare the way for the manifestation of the Son of God.

Mr. M. L. ROUSE writes:—

The favourite theory of Higher Critics that a monotheistic school was first developed in Babylon and then passed on its tenets to the Hebrews is contrary to the fact that the further back we go in the history of pagan nations before they submitted to Christianity the fewer are their gods, while in some cases it can be proved that they had a belief in one supreme God before they became polytheistic.

The Romans added to their few gods, among others, the Grecian Apollo and Hercules, the Sabine Hercules (*Semo Sancus*, *i.e.*, Samson) also, and the Lydian Cybele. The Egyptians multiplied their gods until they were as numerous as the beasts, birds, and reptiles of the country whose figures they took; and the Indians from simple impersonations of sunshine and storm have now swollen the number to untold thousands.

But further, the earliest large edifice of the Egyptians—the Great Pyramid—contains no idolatrous symbols whatever; yet strange to say the name of one god who was afterwards worshipped has been found combined with that of the builder written upon a stone in one of the relieving garrets as *Khnumkhufu*; and the blending of *Khnum* with other words to form proper names has been found in the Fourth and Sixth dynasties: and ages later, Plutarch tells us that



the Thebans honoured Khnum as the being "without beginning or end," and on that ground refused to pay a tax for the festival of Osiris, while in the inscriptions at Philæ, he appears as the potter-god who had made mankind (Plut. De Is. et Osiris a. 21; Budge, *The Mummy*, p. 182).

Again, whereas from the Fifth dynasty downwards the Egyptian kings all called themselves sons of Ra (the sun-god), and besides, often bore a name compounded with Ra's, before that dynasty, none bear a title in which Ra occurs; while Ra appears in only four out of nineteen names of the Fourth, Third, and Second dynasties, and occurs in no royal name before (cp. *Proc. Soc. Bibl. Arch.*, 1908; F. Legge's *Titles of Thinite Kings*, and Petrie, *Hist. Egypt*).

And, lastly, as regards Hommel's argument from the many names ending in *ili* in Arabia, and *ilu* in Babylonia in the time of Khammurabi's dynasty, it was not that Arabia produced monotheism but that the Shemites preserved longer than the Cushites or Accadians the belief in one supreme almighty God. The recent discovery by Delitseh of the name of Ya' Wa coupled with Ilu, God,\* upon Babylonian tablets of the same date leads to the same conclusion.

#### LECTURER'S REPLY.

Most of my critics seem strongly opposed to liberal lines of thought; but Mr. G. P. Gooch writing to me says: "Your address is a cautious and moderate statement of undeniable facts. There is some loose thinking in Delitzsch, Jeremias, and Winckler, but you keep on terra firma." Mr. J. Schwartz, junr., says: "You have clearly enunciated the main point at issue on page 300. It is indeed inspiring to hear one proclaiming the truth rather than the prejudices of a caste." Mr. Curwen, I think I may also look on as in the main on my side.

The object of my paper was (1) to point out certain agreements between Babylonian and Jewish conceptions, and (2) to suggest modes in which these may have occurred. No one has denied the coincidences, but the second point is the one at issue. Dr. Thomas suggests that "both records may have come from the same primæval source," that is a fair alternative, but it hardly accounts for the fact

---

\* See Pinches, *Old Testament in the Light, etc.*, p. 535, 2nd edition.

that these Babylonian conceptions must have been known to Abraham and the inhabitants of Palestine before the Exodus. I suppose they might have come to the Hebrews independently of Babylon, but it is difficult to see how. Others of my critics seem to rely on the belief in a "primitive revelation." I suppose that means that God chose out certain persons on the earth to convey to them certain truths regarding the matters I referred to: viz., the creation of the world, the flood, the eating of the apple, and so forth. I confess I cannot picture the process; nor can I conceive when it occurred. Are we to take Adam's date as 6,000 years ago, or to accept some million years for man's existence on the earth? And if God infallibly revealed these matters in olden time does he infallibly reveal scientific facts now? Butler's argument from the known to the unknown suggests that we may judge the past from the present. Does the eternal God change his ways so vastly at different periods of human life? Then if Gen. i is the record of an infallible revelation why does it state that the stars and sun were created *after* the earth?

One critic says I shake faith in the historical truth of the Old Testament. Nothing can be further from my purpose. I believe entirely in the historical veracity of our sacred books, but not in their infallibility; inspiration is one thing, infallibility another.

Mrs. Maunder rightly contrasts the nobler beliefs of Judaism with the inferior Babylonian ones: yet she somewhat mars her point by omitting reference to the nobler Babylonian expressions which I quoted, and also to such Old Testament passages as "blessed shall he be that taketh thy children and throweth them against the stones."

I agree that it is difficult to understand the Jews adopting the traditions of their captors. But I rather fancy cosmological conceptions may not have appeared to them so important from a religious point of view as to some of us.

I also agree that retrogression is a tendency in religion—an instance of this seems to me to be the burning of witches and of heretics, which really came from the worship of the letter of scripture and tradition. If science leads us back from the letter to the spirit, from barren dogma to living faith, it is doing a great work. Faith surely is not knowledge, but believing in the good, where we do not know.

Mr. Curwen rightly asks for a distinction between the inspiration, *e.g.*, of Tennyson or Darwin, and that of St. Paul and Isaiah. It is difficult to define. Yet I fancy both are real, but one being moral and spiritual stands on a higher platform.

As regards the higher criticism, I gave a few instances of its arguments on pp. 312 and 314, beginning "the pre-exilic period," and "as an instance"—no one has attempted to refute these, so I must still consider them and others "extraordinarily convincing."

Dr. Thomas accuses me of attributing error to our Lord, while he admits "limitations or imperfections of knowledge"; the words I used were: "Our Lord himself must have been *limited* in his historical and scientific knowledge, etc., if his human knowledge was *imperfect*," etc. These are Dr. Thomas's own words, which apparently he accepts. How then does he make good his charge of "lack of thinking out a subject to its conclusion."

I entirely agree with Chancellor Lias's claim to a right "to criticize the critics," and fully appreciate his desire to find the truth. May I again remind him that his belief "that religions tend to decay rather than develop" is an argument for investigation into twentieth-century beliefs.

The following communication from the Rev. JOHN TUCKWELL, M.R.A.S., was received after the foregoing was in print, but at the request of the Council and with the consent of Archdeacon Potter is now inserted:—

Were I to reply fully to this paper I should require not five but fifty minutes; I must therefore put what little I am permitted to say in as few words as possible. Manifestly, if the author is to present to us correct views of "The Influence of Babylonian Conceptions on Jewish Thought," he must have correct views of Babylonian conceptions. As I happen to have read through the whole of the Creation Tablets, the Bilingual Story of the Creation, the Deluge Tablets and many others in the original cuneiform, let me point out a few of the mistakes which the author has made by quoting from prejudiced or untrustworthy sources:—

i. It is not correct to say (p. 301) that Tiamat is "the personification of chaos and darkness." In Tablet I, 4, she is called *Muummu Tiamtu mu-umma-allida-at*, "the Raging Ocean, the female-producer." The idea of "chaos" is neither in the Hebrew nor the Babylonian. It is a Greek word and conception. In the Hebrew, especially,

there is no chaos, but an orderly evolution from a primitive condition of matter.

ii. It is incorrect to say that "from her body were made the sky and heavenly bodies." Her body was said to be cut in two "like a flat fish," one part being used to keep up the waters above, and of the other part no account is given. Merodach is not even said to have "created" any of the heavenly bodies. He is only said to have "fixed the constellations," "established the year," "caused the Moon-god to shine forth," etc. (Tablet V, 1-18).

iii. It is not correct to say that "the Tablets and Genesis agree in putting *the deep as the first existence*." Genesis says that "In the beginning God created the *heaven* and the earth." The tablets contain no such conception as this, and in recording the development of our globe Genesis begins it by saying "The earth was without form and void"—a statement which applies to its nebulous or gaseous condition. The statement that "darkness was upon the face of the deep" applies to an entirely different condition. The Babylonian Tablets speak of Tiamtu, but say nothing about darkness.

iv. It is incorrect to say that "Merodach was originally a solar deity." Merodach was more probably the deified Nimrod and with the imperial ascendancy of Babylon became the chief of the Babylonian pantheon. He had some of the attributes assigned to him of Enlil, who is sometimes called "the older Bel." The fact that he armed himself with the net, the hunter's weapon, to catch the old goddess, Tiamat, confirms this identification with Nimrod, "the mighty hunter before the Lord." There is not a single sentence in the whole of the tablets which justifies his identification with the Sun-god. He asserts his authority over the heavenly bodies which already exist. If he is the personification of anything at all it is of the "firmament," dividing the waters above from the water beneath as in Gen. i. But the attempt to explain Babylonian religious conceptions by astronomical myths has by M. Jastrow and others been carried to an excess not warranted by the records.

v. I do not know where our friend got the idea (p. 301) that "Another tablet describes the *gods* calling forth mighty monsters, the cattle and wild beasts by Ea." In Tablet II, 26-30, Tiamat is described as creating monstrosities such as "the monster serpent," "the raging dog," "the scorpion-man," "the fish-man," etc. In the bilingual tablet Marduk is said to have created domestic cattle such

as "the cow and her young, the steer, the ewe and her lamb, the sheep of the fold," etc.

vi. It is at least misleading to say, "In the sixth tablet, which was published, I think, for the first time by Mr. King, the creation of man is narrated," etc. A portion of the contents of the tablet, as the author admits, has been long known from the writings of Berosus. But what we owe to Mr. King is the publication of a fragment which does not even contain half-a-dozen complete lines, but with fractions of about twenty more lines—a very different thing from saying, "the tablet has been published." Fortunately this fragment confirms the statement of Berosus that it referred to the creation of man, but it adds nothing to our knowledge.

vii. There is no foundation whatever for connecting anything in these tablets with the Fall of Man (p. 302). The author has followed an old mistranslation of a fragment which was at first thought to refer to the Fall, but was afterwards identified by Dr. Pinches as constituting lines 130–138 of Tablet III, and describes a feast of the gods which seems to have ended in their intoxication. The lines are imperfect, but this is certain, "Bread they ate, they produced wine . . . greatly did they linger (?), their spirits rose."

viii. In quoting the inscription of Meren-ptah, "Yisrael is desolate, its seed (which may be read 'crop') is not," he adds, "this is a description of this king's victory over enemies in Canaan," and concludes that "probably there were Israelites in Canaan before the Exodus." But the allusion to "Yisrael" is preceded by the expression "Devastated is Trhenu," or Libya, which was not in Canaan but Africa. Moreover, the inscription was not dated until the fifth year of the king's reign, and the name "Israel" might well have been used for other Hebrew-speaking people. The Canaanites and Moabites spoke Hebrew, and Joseph speaks of himself as "stolen out of the land of the Hebrews."

ix. May I point out another mistake? On p. 309 the author says, "the Sabbath apparently was of Babylonian origin," and proceeds to quote a translation from tablets published in *W.A.I.*, Vol. IV, pp. 32 and 33, though he does not tell us this. By these tablets we learn that the division of days into seasons is of very ancient origin. But the quotation he gives us has nothing to do with the Babylonian *shabattu*, which was the name of the fifteenth day of the month

only. His quotation refers to the *seventh* day of the month. By the Semitic Babylonians the seventh, fourteenth, nineteenth, twenty-first and twenty-eighth days of the month were named *umu limnu*, "an evil day." But there is no evidence that business was suspended. We have contract tablets dated on all these days. The fifteenth day of the month was sacred, but the restrictions the author quotes appear to have been imposed on the king only by the priests. The name *sha-bat*, meaning "middle rest" or "heart rest," appears to indicate that the word was originally astronomical and was applied to the day when the moon was at the middle of her course through the heavens, and after waxing was supposed to rest before waning.

These are by no means all the mistakes the author has made. On p. 314 he does not appear to perceive that "the Canaanite was then in the land," Gen. xii, 16, means that the Canaanite had then settled in the land, and therefore is no proof that it was written after the Canaanites had been expelled. His statement, also, that the latter part of Gen. xiv is in confusion "from v. 17 onwards" he makes no attempt to prove. The supposed confusion I have never been able to discover.

The author confesses that he has no expert knowledge of the subjects with which he deals—subjects which needed very exact expert knowledge. It is unfortunate also that whilst abounding—indeed, consisting almost entirely of quotations, excepting when he quotes some fifteen or twenty times from Professor Driver, who is not an archæologist, and cannot read a line of cuneiform inscriptions, he so seldom tells us whence his quotations are taken. Some of them I happen to know come from sources of very little value in the light of more recent discoveries.

Time and space will not permit me to add more. I can only say how greatly I regret, with all my respect for the author, to be able to say little or nothing in favour of his paper.

## 535TH ORDINARY GENERAL MEETING.

HELD (BY KIND PERMISSION) IN THE ROOMS OF THE  
ROYAL SOCIETY OF ARTS, ON MONDAY,  
JUNE 17TH, 1912, AT 4.30 P.M.

IN THE ABSENCE OF THE PRESIDENT, WHO WAS UNAVOIDABLY  
DETAINED IN THE HOUSE OF LORDS, COLONEL MACKINLAY  
PRESIDED.

The Minutes of the preceding Meeting were read and signed, and the following elections were announced :—

ASSOCIATES : The Hon. Granville G. Waldegrave, B.A., Charles Edward Cæsar, Esq., F.S.I., Rev. J. A. Douglas, B.A., B.D., Miss Marian Barker, Frederick R. S. Balfour, Esq., M.A., William Henry Plaister, Esq., M.R.C.S.

The SECRETARY announced that the Gunning Prize for 1912 had been awarded by the Council to the Rev. Parke Poindexter Flournoy, D.D., Bethesda, Maryland, U.S.A.

---

### ANNUAL ADDRESS.

“*MODERN UNREST AND THE BIBLE.*”

By SIR ANDREW WINGATE, K.C.I.E.

THE windows of a church in Brittany show the writers of the four Gospels being borne on the shoulders of the four great Prophets. The fact thus quaintly exhibited is that the New Testament rests upon the Old Testament.

The mosaics of St. Mark's teach the same lesson from a different standpoint. The catechumen is not expected to lift up his eyes to the interiors of the domes, whence pour down upon him the Gospel narrative, until he has mastered the history of the Old Testament depicted on the outer vestibules and colonnades.

Those old artists sought to impress on the imagination of successive generations of worshippers that faith does not rest only upon the New Testament, and that no one can fully appreciate the crucifixion until he has confessed that Jesus is “the Christ.” Peter, for all men, Martha, for all women, confessed: “Thou art the Christ.” This confession is the Rock on which the Church is built. The Rock, Jehovah, of the Song of Moses; the Rock, the God of Israel, of the last words of David. To enable this confession to be made the Old Testament was written. All the teaching of Jesus led up to this confession.

Peter and Paul preached nothing else. And because of this public confession, which impressed both believers and heathen, the disciples in Antioch were called "Christians"—not Jesus-ites, as one would have anticipated, and as is actually the case in Korea to-day. Those races to whom only the New Testament has been given are not rooted in any depth of soil. Questions must soon be asked: why was Jesus born a Jew? why did He not come sooner? While those nations from whom the Old Testament is being taken away are like a tree drying up from the roots.

As we cross the threshold of the New Testament we find ourselves standing in the gateway of the Old Testament. St. John writes: "In the beginning was the Word." The first chapter of Genesis is open before him. He sees the light shining in darkness and creation taking form and bringing forth life. And, as he recognizes the Christ—transforming chaos into order—he beholds Jesus, born into the spiritual ruin of mankind, to be the true Light; the Christ made flesh and dwelling among us, bringing eternal life to a corrupt and dying world.

So St. Matthew, also going back to Genesis, commences with the words: "The book of the generation of Jesus," because he is about to add the finishing chapter to the Old Testament record of the generations of the first man, culminating in the second man, the Son of God. To the western, who but slightly remembers his grandfather, St. Matthew's introduction to his Gospel conveys nothing. But a Chinaman, as he passes through the long ancestry—as the commanding figures and great events of the past rise into view—is conscious that a highway, cast up with such care through all the preceding centuries, must lead to a Teacher of supreme importance.

No genealogy compares with that of the King of the Jews. Like the star, it guides the wise from the dim east of Eden and halts for ever over the cradle of Bethlehem. Because here was fulfilled the promise made to Eve—to the woman, not to the man, for Jesus was born of a Virgin. Nor could the genealogy continue, because this Sovereign carried with Him, through death, the Crown of David. Above the Cross was placed His title, the King of the Jews, and there it remains till He come.

In the East, people are familiar with the construction of a highway before a great man when he travels. The advents of lesser dignities act like flashes of unusual light to startle the stagnant multitude to expectancy. Thus, the visit of the Prince of Wales, nearly four decades ago, followed by the tours



of other Royal Princes, the succession of Imperial Durbars and Proclamations at Delhi, the magnificence of the scale on which the Royal Camp was being got ready, the centripetal motion of all authority and rank from all parts of the Empire, prepared the millions of India to respect the Majesty of their Emperor. Potentate and peasant bowed in homage, not to a devastating conqueror, but to a Sovereign, whose love was felt, because it had brought him from far, and was returned, because it was real. It is not the least tribute to the sympathy, which underlies British administration, that the Emperor's path to this throne in the hearts of his Eastern peoples was smoothed by the unselfish devotion to duty of many an unknown officer.

So the preparation for the birth of Jesus was long and elaborate. Lights from the old Testament illuminate every part of the road from Bethlehem to Calvary. The words and acts of Jesus were first thrown upon the screen of Old Testament character, whence has come whatever light there is in the heathen teaching of antiquity. How constantly it is repeated that every detail of His life was the fulfilment of Scripture. Jesus is the Good Shepherd because, as Christ, He led Israel like a flock; He is the Living Water because, as the Rock, He sustained Israel in the Desert; He is the Living Bread, because, as Christ, He fed Israel with food from above; He is the True Vine, because, as Christ, He planted Israel in a very fruitful hill. We only understand the words of Jesus by reference to the dealings of Christ with Israel.

Thus John the Baptist, the last of the prophets of the Old Testament and the herald of the New, in one brief cry to the multitude epitomised the Old and foreshadowed the New Testament: "Behold the Lamb of God." A lamb had but one destiny, to be slain for the sins of the people. But who is the Lamb of God? There could be but one answer: "the Lamb, whom God will provide." Abraham prophesied when he replied to Isaac, "God will provide Himself a Lamb." John the Baptist, as he looked on Jesus, saw the Lamb whom God had provided to take away the sin of the whole world, and he proclaimed that Jesus would take the place of Isaac—a brief journey and then a sacrificial death.

From the time when Abel confessed his belief in the substitute God would provide, and so received the righteousness of a life laid down, sacrifice never ceased. It passed through the Flood with Noah and reminded God, as the Rainbow assured man, that Love would overcome in Judgment. It has been remarked that the eight-fold lightning of the "Woes" in

the 23rd of St. Matthew is followed by a rain of tenderness and pity before the chapter closes. So the Bow breaks forth in beauty above the altar of Noah. God when He looked on the sacrifice saw His Son laying down His life for the world. The Rainbow round about the throne of God is Love shining through the tears of God.

But it was to Abraham that the meaning of the slain lamb was disclosed. The whole life of Abraham led up to this revelation. First, he was trained to resign all material things, home, kindred and country. He built no city. He possessed no land, but a tomb. He had no roots in this world. He was indifferent that Lot deprived him of the well-watered plain. He refused to accept the spoil of Sodom. Passing up and down in tents among the nations, he witnessed, alone in a Godless world, that there is a future life, worth losing this world to win, but which, won, gains this world too. Christ said to Abraham, "Leave all," and was obeyed. Jesus said, "Sell,"—not leave, but—"Sell whatsoever thou hast," whereupon the wealthy young ruler turned his back on the promised Heavenly treasure. Does Britain to-day similarly reject the call of the Edinburgh Conference to yield something of her great possessions to rescue the millions of the Far East, whose cries for help can be heard coming out of the darkness?

Secondly, Abraham holds aloft for all ages the standard of faith, which Eve had dropped with doubting heart. Not less than six times during twenty-five years, God had solemnly and circumstantially promised to Abraham a son. The years passed, but nothing happened, till there was no longer any possibility of the promise being fulfilled. Then, from the dead, Isaac was born. The fact that the promised seed would be the miracle of God is thereafter emphasised in Rebekah, in Rachel, in Manoah's wife, in Ruth, in Hannah, in the lady of Shunem, till a Virgin was thus prepared to believe the angel's message. For without faith, the Christ could not be born. Among women, there is no recorded instance of faith comparable to Mary's reply, "Be it unto me according to Thy word."

Next, Ishmael had to be yielded up, and finally the demand came for Isaac, the child of prayer and promise. Did Abraham's light go out in that darkness? His faith shines still with a brilliance that enheartens mankind. Neither to atone for his own sin, nor to placate an angry deity, was he ready to slay his son, but simply because "God hath said." That was enough for both Abraham and Isaac. "Shall not the Judge of all the earth do right?" "Lo, I come to do Thy Will, O God."

When Abraham led captivity captive, he received the blessing of the King of Righteousness and Peace, because the act was prophetic of the day when Jesus would proclaim deliverance to all captives. Out of this experience were born his compassion and intercession for the guilty cities. One righteous Lot had brought strong succour, not only for himself, but for those with him, a blessing which was bestowed upon Noah in the Flood, and upon Paul in the shipwreck. In each case, all who accepted salvation, received it. The dogs eat of the crumbs that fall from the children's table. Did the woman's heart for a moment reflect the wideness of God's mercy? Is there any joy in being saved alone? Is this the thought which underlies the pleading of Moses and of Paul? Did not Jesus pass through that blotting out and the curse that Israel may be saved?

Now, on the mount, the glory of Christ breaks on Abraham's vision. Where Isaac lay bound, he sees the Son of God, and as Abraham enters into the agony of God the Father, who gives His only Son to vivify by His own blood a dead humanity, he foresees that it is through the faith, by which he trusted the word of God, that not only his own race, but all nations shall be blessed. As this Gospel is preached to Abraham (Galatians iii, 8), he beholds the everlasting gates of the Eternal City lifted up and the triumphal entry of Christ—the Lamb that was slain—bringing with him the rescued multitude of all kindreds and tongues; and he is glad, because of the final omnipotence of Love by the Life laid down.

Hitherto, the dealings of God with men had been in judgment: the sentence of death, the Flood, Babel, and Sodom. "I am God Almighty." In the offering of Isaac, God revealed Himself in Love; and from henceforth, God, the friend of Abraham, seeks to renew the fellowship with man which was broken at Eden. "Ye are my friends if ye do whatsoever I command you."

Abraham had typified God giving His beloved Son. Isaac had typified the Son brought as a Lamb to the slaughter, yet opening not his mouth; now, Jacob was to exhibit the long-suffering of God to the slayers of his son. When Jacob told Pharaoh that the days of his years had been few and evil, he is evidently referring to the long-drawn-out forbearance with which he had continued to dwell with the would-be murderers of Joseph—men unstable of principle and cruel in anger, false of tongue and impure in conduct—a forbearance which finally won their love, as is seen in the intercession of Judah for Benjamin.

Thus, as the work of God the Father, God the Son, and God

the Holy Spirit, is successively foreshadowed in the lives of Abraham, Isaac, and Jacob, the triune God adopts their names as His Name to all generations, and the way is prepared for the manifestation in the life of Joseph of the Christ made flesh.

Joseph was sent with a message of goodwill and warning to his brethren, and soon hears their angry shout: "We will not have thee to reign over us." (Genesis xxxvii, 8, and Luke xix, 14.) Jesus was clad as a child with His Father's coat of many colours. Angels and men vied to weave it. His mother never forgot it. But it was torn from him by Herod's ferocity, and He entered on His public life with only the carpenter's home for a background.

Joseph's agony had been unheeded, but his eyes were daily scanning the thronging crowds—searching for the faces of those ten men, just as in the parable the father first caught sight of the returning son, because love was on the watch. Not love but hunger drew both son and brothers within the arms of forgiving love. Let the Christian Church recollect that when the Jews ask for their land. What a nobility of forgiveness there is in Joseph! He intercedes for his brothers, so that in Jacob's last words, where there is sharp rebuke for other sins, and where there is allusion to the separation of Joseph from the family, there is no condemnation. "Father, forgive them." Then Joseph wipes away all tears from their eyes by changing remorse to praise. They had thought evil against him, but God willed it for good "to save much people alive." "Be not grieved nor angry with yourselves that ye sold me hither, for God did send me before you to preserve life." (Genesis xlv, 5, and 1, 20.)

Such is the majestic pardon that awaits the return of weeping Israel. "God shall wipe away all tears from their eyes." The Jews do not yet recognize Jesus, because He is pouring out His treasures upon the nations. Jesus is seen by them in Gentile dress, served by Gentile ministers, and with the Gentile Church for Bride. Yet Joseph had never concealed his identity. From Pharaoh to his Steward every Egyptian knew that Joseph was a Hebrew, and had his brethren inquired why Joseph sat at a table apart, they would have found the clue to his identity.

What caused Joseph to make himself known to his brethren the second time? Judah's moving prayer of intercession; Judah's life laid down—not for Benjamin's sake, but because their father loved Benjamin. Has not the set time come for the Christian Churches to plead for the Jews? Not because they are lovable, but because Jesus loves them, and laid down His life for that nation (John xi, 51, 52). Can there be any second coming of

our Lord—shall we see His face, except our brother be with us? Must we not leave our gift before the altar and first be reconciled to our brother? Why are there not showers of blessing—rivers in the human deserts? Is it not because we give no place in our public worship to our Lord's dying petition?

The Lord Jesus can only make His love known to Israel through us. As long as we persecute or despise the Jews and shut them out of their land, we frustrate the plan of God. Why is the Mission Field so scantily supplied with workers? "The first-born of thy sons shalt thou give unto Me." The Christian Church does not teach that, but when the Jews return to the Lord, His vineyard will be crowded with labourers. The Gentiles have not sought their aid, but the Jews, entering at the eleventh hour, will receive a full wage.

We have only to read the headings to such chapters as Isaiah xlix or Jeremiah xxxi, to realize how the Christian Church has appropriated promises, which belong to the Jews, and has deceived itself into believing that the Jews are disinherited. Is it not the fact, that since the Christian nations, stirred up by the Churches, attempted to seize the Holy Land for themselves—the Crusades broke up in quarrels, which have never ceased—the Moslems have advanced and still maintain their unique position by fomenting and utilising that discord?

We have come then to this point, that the plan of God, as forecast in the Old Testament, has been fulfilled in the New Testament up to the crucifixion and resurrection of Jesus and His rule over the nations. And that there remains for fulfilment the discovery by the Jews that this Gentile Prince is their own King—the Jesus, whom they crucified, now reigning over the kingdoms of the earth, but ever watching with aching heart and outstretched arms for their return. Already the Jews are bringing money in their hands, asking for the lands of their fathers, to be allowed to colonise there, to be guaranteed in safe possession; and Christ is now seeking from the Christian Churches and from the Christian Powers, as Joseph demanded from his steward and claimed from Pharaoh, practical help in making known His goodwill to Israel. But there is no response. The Churches are without faith and the Powers without concern. There is no expectancy of fulfilment.

Why shall the receiving of the Jews by their King be life from the dead? Because a world without faith is dead, and the conversion of the Jews will restore faith to the world. The Jews will look upon the Risen Jesus, and will go forth to proclaim to all nations that this same Jesus, whom they crucified,

is both Jehovah and Christ (Acts ii, 36). We note that Paul, the type of the conversion of Jesus-persecuting Jews, became the Apostle to the Gentiles. And do we not observe a tendency in Jewish converts to preach Christ to Gentiles, rather than to their unconverted brethren? We seem to have here the indication that when the Jews are converted they will be consumed with the desire to preach to the world that Jesus is very Christ.

But is the world in need of life from the dead? Our Lord asks whether, when he comes again, he will find faith on the earth? There are certain indications which point to the present period as one when the fulness of the times of the Gentiles is at hand, and which also cause anxiety as to the future fruit-bearing power of the Gentile Branches. For example, a great cry was raised to win the world for Christ in this generation. When the response was evidently not equal to such a demand, the cry has been modified to the evangelisation of the world in this generation. There seems to be small hope that even this can be accomplished. The Churches and Societies have not even attempted to meet the modest demand made for India by the Madras Conference. Then followed the Edinburgh Conference, when all the churches seemed stirred and moved. Not that there has been no response. Study bands and Bible classes testify that the young are being prepared for greater efforts. But is there a sure hope that the thousands—nay, tens of thousands—of missionaries required to accomplish the preaching of the Gospel to all human beings, will be speedily forthcoming, even reckoning the increasing aid from the Native Churches?

Again, is there reasonable expectation that the faith of the rising generation in this country and of the Native Churches is likely to become more vigorous? At the present moment there are two factors which must occasion grave anxiety. First, the decadence of faith at home and its consequences. Secondly, the spread of similar unbelief to the Mission Fields, re-inforced by the evil report carried back by Indian, Chinese, Japanese, African, and other visitors to our land. Both these factors are the product of what is known as Higher Criticism.

When reading books, which assume to approach the Bible from the critical standpoint, there is no need to delay over the elaborate detail behind which the advance is skilfully masked.

The only point worth noting is, On what books or texts of the Bible is the artillery fire concentrated? Probably no book in the world (if we except the Bible taken as a whole) has ever

been subjected to such tremendous and increasing attack as has assailed the Book of Genesis within the last half-century. No book has had hurled against it, in such rapid succession, such a hail of volumes designed by the best brains. There are those who man the walls of The New Testament, who regard Genesis as a negligible outlier, too remote for its capture to affect their position. But if the account of Eden is a fable, then the declaration that the seed of the woman shall overcome the Serpent is transferred from fact to fiction. If Abraham is mythical and eponymous, then the promise that in his seed all nations shall be blessed, disappears. While the argument that the Lord Jesus is a Priest for ever after the order of Melchizedek is shattered. Our Lord's own words fare no better: "Your father Abraham rejoiced to see my day." "God is not the God of the dead, but of the living." Where there is no promised seed, there is no Christ to preach.

For the same reason, of all the Psalms, the 110th Psalm is the one against which the heaviest guns are trained. It seems almost immaterial who wrote it, till it is recollected that on its authorship Jesus bases the proof that "the Christ" must be at once the Divine Lord and the human Son of David, and Peter bases his assertion, in the Pentecostal Sermon, that Jesus is both Jehovah and Christ.

The material of the Higher Criticism was originally manufactured in Germany. The intention was to destroy Christianity, and action began by a masterly flank movement against the trustworthiness of the history of the Old Testament. The rise of criticism is synchronous with the renewed activity of Missions to the Jews, and doubtless there is urgency to damage the doctrine that Jesus is "the Christ" before the Jews get hold of so potent a truth. Now the stronghold of the Bible is England, and the strength of England is the Bible in the hearts of the people. It was easy to trace the leakage of French vitality to the writings of Voltaire and Rousseau, and to decide that the solid British character would resent the scoffer, but might fall an easy prey were he disguised as the scholar. The ammunition was shipped to this country in ponderous cases, marked "for scholars only." The stratagem, unless we awake to our danger, bids fair to be as successful as when the Trojans dragged the Grecian horse within their walls. Already the results are sufficiently startling. The Bible has not been injured. Possibly critics may not be conscious of any damage to themselves. But faith in the Bible of the man in the street as the standard of right and wrong—the nominal Christianity of the masses—is

being battered to pieces, and the public mind is left defenceless and empty, open to occupation by all the spirits of unrest.

Is our nation letting slip from its grasp what it is vital to retain? Are we losing, what France and Italy are endeavouring to recover, that world-famous institution, the British Sunday? This weekly rest has steadied the nerves of our population and safeguarded us from destructive revolution or excitability in danger. It has cultivated the inventive faculty, which is vigorous in Protestant lands, much less evident in Roman Catholic countries, and becomes extinct in the ceaseless routine of the non-Christian races. It is the secret of our Commercial Supremacy, receiving the over strained brains and bodies at the close of each week and sending them back on the Monday to take an earnest, sane, and fresh view of business problems and anxieties, to meet with braced energy a tired world. It underlies the public respect for law and order, keeping the fear of God in the national conscience. It is the negation of materialism and sets every life clear cut against a sky radiant with hope of things beyond. It is the inheritance, won for the working man by the pioneers of British freedom, giving him seven days' food for six days' work.

Sunday is already a day of pleasure and is fast becoming a day of work. Concomitant with the loss of our day of rest, we are letting slip Church-going, family worship, and Bible reading. The Head Masters of our public schools have already sounded a note of alarm, while window-smashing is a curious product of the new education of girls. Men are being taught to be ashamed of manual labour, and girls to be ashamed of being born women. Are such notions the embryonic stage of the craving for slaves and female infanticide? More money is lost by strikes than is gained by Sunday traffic and trading, and more health is lost by the break-down of nerves than Sunday excitements seem able to cope with. This change of attitude towards Sunday and the Bible on the part of the nation, is reflecting itself in the Government. In the eyes of Mahomedans, by way of winning their respect, British officers serving in Egypt rest on the Moslem Friday and work on the Christian Sunday. And now, in the sight of the Mission Fields of the world, the Lord's Day is being used to instruct men, not how to love, but how to shoot down their enemies. Each desecration of the day is used as an argument to justify the next profanation.

Surely some subtle influence is at work. It is doubtful whether the clergy realize the tremendous success of the campaign against the authenticity of Genesis and the Old



Testament, or are weighing the effect of the present teaching from Theological Colleges to Sunday Schools. The argument of the man in the street is logical and indefeasible. If there was no Abraham there is no Christ. Therefore, the Church is built on no rock at all, and the name Christian has no meaning. People will not read nor go to church to hear about a Book which is represented as untrustworthy. It is a foolish woman who plucketh her house down with her hands. (Prov. xiv, 1.) Before long, the masses will discover that they have no use for the clergy and a strong appetite for their endowments. Already the echo of old-time rebelliousness is in the air. "Go to, let us make a book." If Ezra and Josiah did it, why cannot the more capable men of to-day compile the religions of the world into a book which shall replace the Bible—a book written to XXth century pitch, no curses or woes, all pleasant reading?

"If the foundations be destroyed, what can the righteous do?" Cracks are showing in the superstructure. "In the want of people is the destruction of the prince." France is eliminating the mention of God from her school books, and something else is eliminating the children from her schools. The latest statistics show, for the first time, that the total deaths are in excess of the total births, a point reached after a long series of years of a continually declining birth-rate. Between emigration and service abroad, the conditions here are not so simple, but *The Times* recently headed a paragraph: "The declining birth-rate," and drew attention to the fact that the births in England and Wales in the first quarter of 1912 were the lowest per 1,000 ever recorded. Does a declining birth-rate connote declension of physical and moral qualities? There is at least this answer. When God wishes to bless, He says, "I will multiply thy seed."

Germany and Italy have been building up their power by the closer union of all the parts. The tendency in the United States is in the same direction. We seem to be breaking up our United Kingdom, and to be drifting into collision with those who are loyal and protestant.

The Archbishop of Canterbury notes with anxiety the spirit of lawlessness which is abroad. The disregard of agreements, the callousness to the suffering caused, the indifference to patriotic considerations. A recent article in *The XIXth Century and After* ascribes the labour unrest to the call of the railway; the growth of the city; the sense of new and untried powers produced by an education, framed to suit the children of the leisured and professional classes, and not suited to those

intended for manual labour; and, finally, the waking of discontent by being stimulated to compare what they have with what they are told they ought to have. But these causes would not breed lawlessness, but for the weakening of the faith of the masses in the Bible. When Israel departed from Jehovah there was always unrest in the land. There are two ways of obtaining even what we ought to have. David was informed he would be king, but he refused to permit Saul to be killed. Hazael was informed he would be king, and he forthwith murdered Benhadad.

When God blesses a nation, he makes even its enemies to be at peace with it. (Prov. xvi, 7; Psl. xxix, 11.) Germany and Britain are allied by race, religion and temperament, and by the long struggle with Rome to win the right of the Saxon peoples to possess the Bible in their own vernacular. To-day, the possibility of a war between Germany and ourselves is freely discussed, and both empires are actively increasing their armaments by sea and land. The entente with France, useful as it has been in North Africa, has fulfilled Lord Rosebery's prediction that it would entail the enmity of Germany. An alliance with France, whose immediate thought is to recover her lost provinces, is fraught with anxieties.

The situation is difficult, because Germany is just as desirous of the aid of the French fleet in the North Sea as we are to have it in the Mediterranean. The situation is also critical because events succeed one another with bewildering rapidity. The pressing fact is that the Mahomedan populations are passing under the control of Christian rulers. From Egypt to Morocco, together with the vast hinterlands of Nigeria and the Sudan, the whole continent of North Africa is being freed from Moslem domination. North Persia is under the firm tutelage of Russia, and England is being forced into a similar position in South Persia. This break-up of Mahomedan power has not only caused Germany to seek to extend her territory in Africa, but has warned her that some power must shortly take Turkey in hand. The natural expansion of Germany and Austria is towards Constantinople, and this brings the interests of the Triple Alliance into conflict with a Russian ambition, which we, too, have long consistently opposed.

The pressure is being felt in Egypt, which has long enjoyed isolation, but is now flanked, on one side by a strong Italian army, and on the other, as soon as the approaching linking-up of the Anatolian and Hedjaz Railway Systems is completed, by Turkish troops. If Mesopotamia is to be re-created under

German influences and the proposed Baghdad Railway is carried to the Persian Gulf, our relations with Persia are threatened and a new danger will confront the Government of India.

The natural saviour of the Christian populations, groaning under Moslem intolerance, is Protestant Germany acting with Austria-Hungary. For a free hand in South-Eastern Europe, Germany might be willing to leave the Baghdad Railway and the Euphrates-Tigris Irrigation Projects to be constructed by Jewish capitalists, and to resign Mesopotamia to British influences as France resigned Egypt. The Mahomedan grip on the lands of the Bible must soon relax, and thus the way for the return of the Jews is made open. What can remedy the situation at home? What can save the young native churches? What can bring peace to the distracted nations? One simple act of justice. In all these conflicting policies focussing on Mesopotamia may be seen the Hand of God, lifted up to the nations, to gather the Jews out of all countries and bring them into their own land. (Isa. xlix, 22; Ezek. xxxvi, 24.) The brothers fell not out by the way, because Benjamin was with them, and Benjamin reminded them of Joseph. The restoration of this people, without ambassador to plead their cause, without an army to enforce their claim, will remind the world of Christ, how He leads captivity captive, and, as the world looks on, faith will return to mankind, that "nation shall not lift up sword against nation, neither shall they learn war any more." As soon as the nations do the will of God, faith compels the fulfilment of the Promise: "My Presence shall go with thee, and I will give thee Rest." (Exod. xxxiii, 14.)

Recent wars have brought about the cultivation of the physical energies of our youth. In face of present day teaching that war is necessary to keep an imperial people fit, and of the dramatic use of the mailed fist by various governments, this is wise. But let it be remembered that the Philistines excelled in drill and equipment and numbers the little army of Israel, as did the Midianites, the 300 men with Gideon. The victory was gained by reason of that strange fear which grips men when they recognize that they are fighting against an unseen power. The Old Testament is a continuous story of the impotence of physical force against spiritual protection. Heathen grasped this truth, when, for example, they attributed the storm which wrecked Aeneas on the coast of Carthage to Juno; just as the King of Spain did, when he said he had sent his Armada to fight men not Aeolus.

It may be replied, that too much importance is attached to

Higher Critics, that it scarcely requires the living voice to rout them, because they have forgotten that Jacob and Joseph were embalmed by Egyptians and any day a dead man's bones may send them helter skelter. Also, that the bulk of the clergy do not hold advanced views. Eleven-twelfths of the followers of Jesus remained staunch, but it was the kiss of Judas that brought the hammer of Titus which pulverized Jerusalem. When Israel lost the Bible there was turmoil within and war without. Each time Israel found the Bible there was peace at home and abroad.

Colonel MACKINLAY called upon General Halliday to move that the best thanks of the members of the Institute be given to Sir Andrew Wingate for the Annual Address he had just delivered.

General HALLIDAY, said: The Institute was to be congratulated upon the address to which they had all listened with so much pleasure. He referred to the lessons which the address brought home to our own hearts in days when there is so little subjection to the Word, and spoke of the wondrous unity of declared purpose from Genesis to Revelation, and of the prevalent unrest as a result of that lack of subjection, whether in the nations or in individuals. He referred with cordial appreciation to the lessons of the Crusades and the Armada which Sir Andrew had emphasized, and hoped to see those lessons applied in our to-day's experience. Meddling, however well meant, with earthly politics could not bring the "rest of God."

Professor LANGHORNE ORCHARD, said: It is my pleasant lot to second the vote of thanks, so felicitously proposed by General Halliday, for a deliverance which, by nobility of aim, by cogency and simplicity of reasoning, has worthily maintained the high traditions of this Society's Annual Addresses.

The prevailing unrest is largely owing to a spirit of discontent and lawlessness. To this, as pointed out in the address, various secondary causes—among them the inflammatory harangues of political demagogues—have beyond doubt tended. But, as we are reminded on p. 350, "these causes would not breed lawlessness" were it not for "the weakening of the faith of the masses in the

Bible." In public belief, in the forum of the public conscience, the Bible has stood as the symbol of supreme authority, as the expository of the highest law. To "the man in the street," attacks upon the Bible (as he knows it) are attacks upon that authority, attacks upon that law. And here it should be borne in mind that disparagement of part of the Bible is disparagement of the whole, for W. E. Gladstone was unquestionably right in his contention that the Bible is an organic whole—if a limb be cut off, there is danger that the whole body bleed to death.

Authority, if weakened at its source and fountain, is weakened everywhere; if respect be loosened for Divine law, it is loosened generally for human laws—which are professedly in equity derived from and based on the Divine.

The indictment of the *Higher Criticism* (p. 346 and 347) is thus thoroughly deserved. Not that Higher Criticism is necessarily bad. But it becomes bad when, as is the case with that now dominant, it aims at weakening Biblical authority, and is conducted with injustice, unfairness in the interests of a preconceived theory, and without competent knowledge.

It is, in my judgment, evident that the restoration of Israel to their own land will, by strengthening popular belief in the truth of Scripture, tend to cure unrest and discontent. "The restoration of this people, without ambassador to plead their cause, without an army to enforce their claim, will remind the world of Christ. . . ." This strange event, seen as the fulfilment of prophecy, may be expected to arouse attention and thoughtfulness. The children of Israel, going forth as evangelists, will lead men to the knowledge and obedience of GOD, and thus to an increased respect for law and liberty which is not licence.

Yet the only complete cure for unrest in all the feverish workings of its protean forms is Rest from the hands of the Rest-Giver who says, not to the "Labour Party" only, "Come unto Me, all ye that labour and are heavy-laden, and I will give you rest."

We shall subscribe to the reasoning (p. 347) that the New Testament is unintelligible apart from the Old, so that, in logical consistency, belief of the New involves belief of the Old; and we shall agree that "the strength of England is the Bible in the hearts of the people." "Naught shall make her rue," if England to her God, and therefore, to His holy word, "do prove but true."

The resolution was put to the meeting and carried with acclamation.

Sir ANDREW WINGATE briefly thanked the Chairman, the proposer and seconder of the resolution and the meeting for their kind reception of his address.

The CHAIRMAN then called upon the Secretary to give a brief account of the recent good progress of the Institute, a progress which he gratefully acknowledged was mainly due to Mr. Bishop's enthusiastic and successful efforts.

The SECRETARY stated that during the twenty months he had been in office 106 new members and associates had joined the Institute, nearly double the number who had been removed by death, or had retired. He gave much of the credit of this to the Council and the Assistant Secretary who had so wholeheartedly supported him in his duties and made his work both easy and pleasant. The papers read during the session had maintained if they had not surpassed the standard of former years, the attendance at the meetings had been uniformly large, and the interest in, and importance of the discussions had been so great that a much larger amount of space in the new volume would have to be allotted to them than for many years past. He was sure this would be appreciated by readers of the volume when it came into their hands.

The CHAIRMAN then stated that the Session of 1911-12 was now closed and that the new Session would open on December 9th next, with a paper by Dr. Whately on "Immortality."



LIST OF THE  
MEMBERS, ASSOCIATES,  
&c.

# COUNCIL AND OFFICERS.

---

---

## President.

THE RIGHT HONOURABLE THE EARL OF HALSBURY,  
D.C.L., F.R.S.

## Vice-Presidents.

SIR T. FOWELL BUXTON, BART., K.C.M.G.  
DAVID HOWARD, ESQ., D.L., F.C.S., F.I.C. (*Trustee*).  
LORD STRATHCONA AND MOUNT ROYAL, G.C.M.G., LL.D.  
LIEUT.-GEN. SIR H. L. GEARY, R.A., K.C.B.  
PROFESSOR EDWARD HULL, M.A., LL.D., F.R.S., F.G.S.  
REV. CANON R. B. GIRDLESTONE, M.A.  
GENERAL J. G. HALLIDAY.

## Honorary Auditors.

E. J. SEWELL, ESQ. | H. LANCE GRAY, ESQ.

## Honorary Treasurer.

ARTHUR W. SUTTON, ESQ., J.P., F.L.S.

## Secretary and Editor of the Journal.

FREDERIC S. BISHOP, ESQ., M.A., J.P.

## Assistant Secretary.

MR. ALBERT E. MONTAGUE.

## Council.

(*In Original Order of Election.*)

VERY REV. H. WACE, D.D., *Dean of Canterbury (Trustee)*.  
REV. CHANCELLOR J. J. LIAS, M.A.  
THEO. G. PINCHES, ESQ., LL.D., M.R.A.S.  
VEN. ARCHDEACON W. M. SINCLAIR, M.A., D.D.  
REV. JOHN TUCKWELL, M.R.A.S.  
LIEUT.-COLONEL GEORGE MACKINLAY (*Chairman*).  
ARTHUR W. SUTTON, ESQ., J.P., F.L.S.  
REV. PREBENDARY H. E. FOX, M.A.  
PROFESSOR H. LANGHORNE ORCHARD, M.A., B.Sc.  
RT. REV. BISHOP J. E. C. WELLDON, D.D.  
SYDNEY T. KLEIN, ESQ., F.L.S., F.R.A.S., M.R.I.  
WILLIAM J. HORNER, ESQ.  
FREDERIC S. BISHOP, ESQ., M.A., J.P.  
ALFRED T. SCHOFIELD, ESQ., M.D.  
HEYWOOD SMITH, ESQ., M.A., M.D.  
REV. H. J. R. MARSTON, M.A.  
E. WALTER MAUNDER, ESQ., F.R.A.S.  
VEN. ARCHDEACON BERESFORD POTTER, M.A.  
REV. J. H. SKRINE, M.A., D.D.  
J. W. THIRTLE, ESQ., LL.D., M.R.A.S.  
E. J. SEWELL, ESQ.  
CHANCELLOR P. VERNON SMITH, LL.D.  
S. JOSHUA COOPER, ESQ.



\* *Members of Council.*

† *Life Members or Life Associates.*

‡ *Distinguishes those who have contributed Papers to the Institute.*

§ *Foundation Members or Associates (elected before Dec. 31, 1866).*

## MEMBERS.

### A.

- 1876 Aitken, Rev. Canon W. Hay M. H. M.A. Oxon.  
 1895 Alves, Lt.-Colonel M. A. R.E.  
 1901 Ami, Professor Henry M. M.A. D.Sc. F.G.S. F.R.S.  
       Canada.  
 1896 Anderson, Sir Robert, K.C.B. LL.D.

### B.

- 1911 Bardsley, Rev. Cyril C. B. M.A.  
 1882 †Baring, Rev. F. H. M.A. Camb. F.R.G.S.  
 1869 †Barker, John L. Esq.  
 1901 †Bell, Colonel Alexander W. C. (late Indian Army).  
 1873 Bevan, Francis A. Esq. D.L. J.P.  
 1879 \*Bishop, F. S. Esq. M.A. Oxon. M.A. Cantab. J.P.  
       (SECRETARY.)  
 1910 Bishop, T. B. Esq.  
 1911 Blythwood, The Rev. The Lord, M.A.  
 1908 Bowles, Edward Augustus, Esq. M.A. Cantab. F.L.S.  
       F.E.S.  
 1911 Braddon, John B. Esq.  
 1907 Braun, Mrs. D. von.  
 1912 Brocklebank, Mrs. Richard M.  
 1884 Brown, Rev. Claud, M.A. Oxon.  
 1907 Bruce, Rev. John Collingwood Gainsford, M.A.  
 1896 Buxton, Sir T. Fowell, Bart. K.C.M.G. F.R.G.S.  
       (VICE-PRESIDENT.)

### C.

- 1912 Campbell, Charles Stewart, Esq. B.A. Camb. I.C.S.  
 1891 Carr, Rev. Arthur, M.A. late Fell. Oriol, Hon. Sec.  
       Cent. Soc. Higher Relig. Educ.  
 1912 Challis, Frank W. Esq. M.A.  
 1894 Chapman, Geo. John, Esq. M.A. S.C.L. F.Z.S.  
 1904 Clough, G. Benson, Esq.

- 1911 ¶¶ Coles, Rev. J. J. B. M.A.  
 1906 Collett, Sidney, Esq.  
 1890 Collins, Brenton H. Esq. J.P.  
 1889 \*Cooper, S. Joshua, Esq.  
 1871 †Coote, Sir A. C. P. Bart. M.A. Camb. F.R.G.S.  
 1905 Corrie, Josiah Owen, Esq. B.A. F.R.A.S. *Barr.*  
 1872 Coxhead, Rev. J. J. M.A.  
 1897 Cunningham, Francis A. Esq. M.A. B.Sc. Attorney-  
 at-Law.

## D.

- 1871 †Day, William, Esq.  
 1903 Deacon, J. F. W. Esq. M.A. J.P. D.L.  
 1889 †Dodge, Rev. D. Stuart, M.A.  
 1910 Drawbridge, Rev. Cyprian L. M.A.  
 1899 Drummond, Mrs. J. M. A.  
 1903 Ducie, Right Hon. The Earl of, F.R.S. F.G.S.

## E.

- 1882 †Ellis, Alston, Esq. A.M. Ph.D. LL.D.

## F.

- 1878 Fairfax, Sir James R.  
 1904 Finn, Alexander, Esq. F.R.G.S., British Consulate,  
 Chicago, U.S.  
 1902 Foote, Robert Bruce, Esq. F.G.S.  
 1875 \*Fox, Rev. Prebendary H. E. M.A. Camb.  
 1876 Freeman, Miss F. H.  
 1892 Fremlin, R. H. Esq.

## G.

- 1892 Geary, Lieut.-General Sir H. L. K.C.B. R.A.  
 (VICE-PRESIDENT.)  
 1908 ¶¶ Gerard, Rev. John, B.A.  
 1877 ¶¶ Girdlestone, Rev. Canon R. B. M.A. (VICE-  
 PRESIDENT.)  
 1896 †Gregg, Rev. David, D.D. LL.D.

## H.

- 1899 Halliday, General J. G. (VICE-PRESIDENT.)  
 1888 ¶¶ HALSBURY, The Right Hon. Hardinge Stanley Giffard,  
 Earl of, K.G. P.C. F.R.S. (PRESIDENT.)

- 1901 Harrison, Edgar Erat, Esq.  
 1882 Head, J. Merrick, Esq. F.R.G.S.  
 1893 Heath, Captain G. P. R.N.  
 1890 Hellier, Rev. Prebendary Henry Griffin, Balliol Coll.  
 Oxon.  
 1911 Henty, Walter, Esq. M.A. Camb.  
 1906 Hershensohnn, Joshua R. Esq.  
 1879 †Hingston, C. A. Esq. M.D. B.Sc. Lond.  
 1895 Hooper, George Norgate, Esq. F.R.G.S. F.S.S.  
 1912 Hopkins, Rev. Evan H.  
 1906 \*Horner, William J. Esq.  
 1873 ¶Howard, David, Esq. D.L. F.C.S. F.I.C. (VICE-  
 PRESIDENT.)  
 1873 Howard, R. Luke, Esq. F.R.M.S.  
 1873 Howard, Theodore, Esq.  
 1873 †Howard, W. Dillworth, Esq.  
 1888†¶Hull, Professor E. M.A. LL.D. F.R.S. F.G.S.; lat.  
 Director of the Geological Survey of Ireland,  
 Acad. Sci. Philad. Corresp. Soc. Geol. de Belge  
 (VICE-PRESIDENT).

## J.

- 1911 Jefferis, Rev. William McCaulley, M.A. B.D. D.D.  
 1891 †Jex-Blake, The Very Rev. T. W. D.D.

## K.

- 1911 King, George A. Esq. M.A. Master of the Supreme  
 Court.  
 1893 †Kinnaird, The Honourable Louisa E.  
 1900\*¶Klein, Sydney T. Esq. F.L.S. F.R.A.S. F.R.M.S.  
 F.E.S. M.R.I.

## L.

- 1891¶†Lansdell, Rev. Henry, D.D. Memb. Rl. Asiatic Soc.  
 F.R.G.S.  
 1898 Laurence, Miss M. A.  
 1911 ¶Lewis, Mrs. Agnes Smith, LL.D.  
 1875¶\*Lias, Rev. Chancellor J. J. M.A. Hulsean Lecturer  
 1884.  
 1908 Longdon, Miss Caroline Mary.  
 1911 Llandaff, The Right Rev. Joshua P. Hughes, D.D.  
 Bishop of.

## M.

- 1909 MacEwan, Miss Madge D.  
 1907¶\*Mackinlay, Lieut.-Colonel George, late R.A. (CHAIR-  
 MAN OF COUNCIL.)

- 1912 Maconachie, Robert, Esq. B.A.  
 1885 †Marshall, Rev. C. J.  
 1907 Martin, George H. Esq. M.D.  
 1872 Matthews, John T. Esq.  
 1908 ¶\*Maunder, E. Walter, Esq. F.R.A.S.  
 1909 McLarty, Pharmacist Colin, U.S.N.  
 1911 Minifie, Rev. William C. Ph.D. D.D. F.R.S.L.  
 1898 Molony, Edmund Alexander, Esq. (Indian Civil Service).  
 1905 †Mortimer, Rev. Alfred G. D.D. Philadelphia.  
 1881 †Mullens, Josiah, Esq. F.R.G.S.  
 1911 Munro, Rev. J. Iverach, M.A. Edin.

## N.

- 1878 NELSON, The Right Hon. The Earl.  
 1881 Newton, Rev. Canon Horace, M.A. Camb. of York.  
 1911 Niblock, Rev. Alex Moncur.

## O.

- 1902 Olsen, Ole Theodor, Esq. M.A. Ph.D. D.Sc. F.L.S. F.R.A.S. F.R.G.S. Ord. Wasa, Sweden ; Ord. St. Olaf, Norway ; St. Andrew's Terrace, Grimsby.  
 1891\*+¶Orchard, H. Langhorne, Esq. Prof. of Logic, M.A. B.Sc. (Gunning Prizeman 1909.)

## P.

- 1911 Panton, Rev. David M. B.A.  
 1881 †Patton, Rev. F. L. D.D. LL.D. Prof. Relations of Philosophy and Science to the Christian Religion, Principal, Princeton Theo. Seminary.  
 1910 Peebles, J. M. Esq. M.D. Ph.D.  
 1896 †Petter, Rev. W. D. H. M.A. Camb.  
 1911 Phillips, Charles Esq. F.R.G.S.

## R.

- 1911 Richardson, Robert D. Esq.  
 1880 Rivington, Rev. Cecil S. M.A. Hon. Canon of Bombay.  
 1909 ¶Roget, Professor F. F.  
 1899 ¶Rouse, Martin Luther Esq. B.A. B.L.  
 1872 Rowe, Rev. G. Stringer.

## S.

- 1903 Schuster, Rev. W. P. M.A.  
 1882 †Scott-Blacklaw, Alex. Esq.  
 1904 \*Sewell, Ebenezer J. Esq. (HON. AUDITOR.)

- 1909 Shelford, Rev. Prebendary L. E. M.A.  
 1889 †Simpson, Prof. Sir Alexander R. M.D.  
 1893 Smart, Francis G. Esq. M.A. M.B. J.P. F.L.S.  
     F.R.G.S. F.S.A.  
 1873 \*Smith, Chancellor Philip Vernon, M.A. LL.D.  
 1892 †Stilwell, John Pakenham, Esq. J.P.  
 1885 †Strathcona and Mount Royal, Lord, G.C.M.G. LL.D.  
     F.R.G.S. F.G.S. (VICE-PRESIDENT.)  
 1903¶\*Sutton, Arthur W. Esq. J.P. F.L.S. (HON.  
     TREASURER.)  
 1906 Sutton, Leonard, Esq. F.L.S.  
 1888 Sutton, Martin J. Esq. J.P. F.L.S. F.R.G.S. Chev.  
     Leg. of Honour.

## T.

- 1908 \*Thirtle, James W. Esq. LL.D. M.R.A.S.  
 1906 Townley, Rev. Charles F. M.A.  
 1899 Tremlett, James Dyer, Esq. (Barr.-at-Law) M.A.  
     Camb.  
 1889 Tritton, Joseph H. Esq. F.R.G.S. F.S.S.  
 1894¶\*Tuckwell, Rev. John, M.R.A.S.  
 1908 Turner, Henry Charlewood, Esq. M.A. Camb.  
 1883 Turton, Lt.-Col. W. H. D.S.O. R.E. F.R.G.S.

## U.

- 1889 ¶Urquhart, Rev. John (Gunning Prizeman, 1905).  
 1880 Usherwood, The Ven. Archdeacon T. E. M.A.

## W.

- 1876¶\*Wace, Very Rev. H. D.D. Dean of Canterbury; Hon.  
     Chap. to the Queen; late Principal of King's  
     College, Lond. (TRUSTEE.)  
 1873 Walters, William Melmoth, Esq.  
 1878 †Watson, Rev. A. Duff, M.A. B.D.  
 1903 †Whidborne, Miss Alice M.  
 1910 Whidborne, Mrs. G. F.  
 1899 Wigram, Rev. E. F. E. M.A.  
 1910 Wilkinson, Rev. Samuel Hinds, F.R.G.S.  
 1894 Williams, Colonel Robert, M.P.  
 1879 Willis, Right Rev. Alfred, D.D.

## Y.

- 1876 Young, C. E. Baring, Esq. M.A. F.R.G.S.

## ASSOCIATES.

- 1878 Adams, Rev. Canon James.  
 1894 Adams, Rev. Wm. W. D.D.  
 1888 †ANDREWS, Rt. Rev. Walter, M.A. Bishop of Hokkaido,  
 Japan.  
 1905 Arnström, Rev. D. A.  
 1887 Arrowsmith, E. M. Esq.  
 1887 Ashby, Robert, Esq.  
 1888 ¶Ashwin, Rev. C. Godfrey, M.A.  
 1909 Ashwin, Rev. Edward Godfrey, M.A. Camb.  
 1906 Ashwin, Rev. Forster, B.A.  
 1909 Ashwin, Rev. Hamilton, LL.D. T.C.D.  
 1891 †Atkinson, Rev. Edward, D.D. Master Clare Coll.  
 Cambridge.  
 1906 Baker, Lt.-Colonel W. W. R.E.  
 1912 Balfour, Frederick R. S. Esq. M.A. Oxon.  
 1911 Balfour of Burleigh, The Right Hon. Lord.  
 1911 Banham, Rev. William, B.A.  
 1912 Barbour, Mrs. G.  
 1912 Bardsley, Rev. Joseph Udell Norman, M.A.  
 1912 Barker, Miss Marian.  
 1893 Barlow, Rev. C. H. M.A. Oxon. Chap. Bengal.  
 1910 Bartholomew, Mrs. Lucy Isabella.  
 1902 Barton, Rev. Professor G. A. Ph.D.  
 1911 Baumer, Miss E. M.  
 1909 Beachcroft, Miss Mary.  
 1906 Bent, Mrs. Theodore.  
 1887 Berry, Rev. Canon D. M. M.A. Oxon. Demi of Magd.  
 Ellerton Prizeman.  
 1894 Bevan, Ven. Archdeacon H. E. J. M.A. Camb.  
 Gresham Prof. of Divinity.  
 1890 †Bigelow, Professor Melville M. Ph.D.  
 1888 Bird, Arthur, Esq. F.R.G.S.  
 1904 †Birkett, Rev. Arthur Ismay, M.A.  
 1911 Bishop, Herbert M. Esq. M.D. Yale.  
 1910 Bishop, Miss Lisa.  
 1910 Bishop, Miss Penelope M.  
 1911 Blackburn, Rev. Eastwood, M.A. L.Th.  
 1905 Blandy, Miss Grace.  
 1900 Bolton, Miss Elsie H.  
 1890 Bomford, Rev. L. G. M.A.  
 1902 Boord, Miss Eva J.  
 1912 Bramwell, Miss Cecilia.

- 1895 Breed, Rev. Professor David R. D.D.  
 1895 Breed, Rev. F. W. B.A. Durham.  
 1887 Bridgeman, Col. the Hon. Francis C.  
 1882 Broadbent, Colonel J. E. C.B. R.E.  
 1900 Brown, J. Walter, Esq.  
 1889 Browne, John, Esq. C.E.  
 1911 Bruce, Sir Charles, G.C.M.G.  
 1893 †Bryan, Joseph Davies, Esq.  
 1894†¶ Bullen, Rev. R. Ashington, B.A. F.L.S. F.G.S.  
 1911 Burn, Major Henry Pelham.  
 1893 Buswell, Ven. Archdeacon H. D.  
 1892 †Butt, Rev. Canon G. H. B.A.  
 1911 Buxton, Thomas Fowell Victor, Esq. M.A. Camb.  
 1912 Cæsar, Charles Edward, Esq. F.S.I.  
 1889 †Cain, Rev. John.  
 1910 Candy, Charles Harrison, Esq. B.A. LL.M. Camb.  
 1912 Cartwright, George, Esq.  
 1907 Carus-Wilson, Henry, Esq.  
 1889 †Caudwell, Eber, Esq. M.R.C.S.E. L.R.C.P.  
 1890 †Caudwell, Paul, Esq. B.A. Solicitor.  
 1906 Chambré, Colonel H. W. Alan.  
 1889 Chatterton, Rev. F. W.  
 1884 Chichester, Rev. E. A. M.A. R.D. Hon. Canon of  
     Winchester.  
 1909 Chichester, Henry H. L. Esq.  
 1911 Churchill, Miss Louisa.  
 1888 Clyde, Rev. J. C. A.B. A.M. D.D.  
 1891 †Cobern, Rev. Prof. Camden M. B.A. S.T.B. Ph.D.  
 1911 Cochrane, Rev. Archibald, M.A. Camb.  
 1893 Cockin, Rev. J.  
 1905 Collison, Harry, Esq. M.A. Barr.  
 1885 †Coote, S. V. Esq. M.A. Oxon. F.R.G.S.  
 1877 Crewdson, Rev. Canon G. M.A. Camb.  
 1908 Crewdson, Miss Gwendolen, M.A.  
 1890 Crosbie, Rev. Howard A. M.A.  
 1890 Cruddas, W. D. Esq. D.L. J.P.  
 1908 Dale, William, Esq. F.S.A. F.G.S.  
 1884 Daunt, The Ven. Archdeacon W. M.A.  
 1876 Dawson, Rev. W. M.A. F.R.H.S.  
 1880 Day, Rev. A. G. M.A. Oxon.  
 1888 Deedes, Ven. Archdeacon Brook, M.A.  
 1894 †Della Rocchetta, of Dolceacqua, Count Arthur, late  
     Capt. in the General Staff of Italian Army.  
 1908 Derr, Andrew F. Esq. M.A.  
 1890 †De Witt, Rev. Prof. John, D.D.  
 1898 Dibdin, R. W. Esq. F.R.G.S.  
 1874 Dimond-Churchward, Rev. Prebendary M. D. M.A.  
 1912 Douglas, Rev. John Albert, B.D. B.A. Lon.  
 1897 Drake-Brockman, William Drake, Esq., late Sup.  
     Engineer P.W.D. India; late A.I.C.E.

- 1911 Dreaper, Miss Anna B.  
 1911 Dubois, Ernest A. Esq.  
 1888 DUNLEATH, The Rt. Hon. H. L. Lord.  
 1885 DURHAM, The Rt. Reverend H. C. G. Moule, D.D.  
     Bishop of.  
 1883 Ebbs, Miss Ellen Hawkins.  
 1891 Eckersley, Rev. Jas. M.A.  
 1910 Edensor, Miss Florence M.  
 1885 ¶† Elwin, Rev. Arthur.  
 1909 Evans, George, Esq.  
 1886 Evans, Mrs. James Joyce.  
 1896 EVINGTON, Right Rev. Bishop H. D.D. late (Bishop in  
     Kiushiu. S. Japan).  
 1899 Fairbairn, H. A. Esq. M.D. M.A.  
 1899 † Farquharson, Mrs. M.  
 1892 Feilden, J. Leyland, Esq.  
 1876 Field, Rev. Arthur T. M.A. Camb.  
 1896 † Field-King, J. M.D. C.S.D.  
 1879 Finnemore, Rev. J. M.A. Ph.D. F.G.S.  
 1885 Fleming, Rev. R. H. B.A. D.D.  
 1881 Fleming, Sir Sandford, K.C.M.G. LL.D. F.G.S.  
     F.R.G.S. V.-President Royal Soc. of Canada.  
 1900 Flint, Charles A. Esq.  
 1889 † FLORIDA, The Right Rev. E. G. Weed, D.D. S.T.D.  
     Bishop of.  
 1897 Flournoy, Rev. Parke Poindexter, D.D. (Gunning  
     Prizeman, 1912.)  
 1894 † Forster, Miss E. J.  
 1882 ¶† Fox, C. Dillworth, Esq.  
 1911 Fussell, Rev. James C. L.Th.  
 1900 Gardiner, Miss Grace Dorothea.  
 1873 † Gardner, Mrs. Ernest L.  
 ¶ † Gedge, Sydney, Esq. M.A. F.R.G.S.  
 1899 Gibbon, Lt.-Colonel J. Aubrey, R.E.  
 1911 Gibson, Mrs. Margaret Dunlop, LL.D. D.Litt.  
 1908 Gilbertson, Francis W. Esq. B.A.  
 1908 Given, J. C. M. Esq. M.D. M.R.C.P.  
 1903 Goodridge, Richard E. W. Esq.  
 1911 Graham, John, Esq.  
 1881 Gray, Charles, Esq.  
 1910 Gray, H. Lance, Esq. (HON. AUDITOR.)  
 1877 Greenstreet, Colonel W. L. R.E.  
 1897 Greer, Mrs. Thomas.  
 1881 Grey, Rev. H. G. M.A.  
 1901 ¶ Griswold, Rev. H. D. M.A. Ph.D.  
 1897 Gutch, George A. Esq. C.E.  
 1910 Habershon, Miss A.  
 1903 Hamlyn-Harris, Dr. Ronald, D.Sc. F.G.S. F.L.S.  
 1899 Harlowe, David, Esq.  
 1901 Harmer, F. W. Esq. J.P. F.G.S.



- 1878 Harper, The Ven. Archdeacon H. W. M.A.  
 1911 Hassé, Rt. Rev. Bishop Evelyn R.  
 1911 Hawtayne, W. C. C. Esq. M.I.E.E.  
 1911 Heath, Robert, Esq.  
 1904 Heaton, James, Esq. Memb. Soc. Arts.  
 1908 †Hemming, Miss A. E.  
 1908 Hendley, Lieut.-Col. Harold, I.M.S. M.R.C.S. M.D.  
     Durh. D.P.H. Camb.  
 1889 †Herbert, Rev. Edward P.  
 1896 Hewitt, David Basil, Esq. B.A. L.R.C.S. L.R.C.P. J.P.  
 1882 Hicks, Rev. Edward, M.A. D.D. D.C.L.  
 1891 Higgens, T. W. E. Esq. A.M.I.C.E.  
 1892 †Hildesley, Rev. Principal A. H. M.A. Sanawar.  
 1912 †Hill, Prof. W. Bancroft.  
 1908 Hodgkin, Miss Alice Mary.  
 1897 Hodgson, Rev. William, M.A. Oxon.  
 1902 †Hogarth, Rev. Oswald J. M.A.  
 1912 Hogg, Mrs. C. S.  
 1912 Holden, Rev. J. Stuart, M.A. Camb.  
 1911 Holmes, Mrs. Mabel.  
 1883 †Houstoun, G. L. Esq. F.G.S.  
 1902 Howard, Sir Frederick, J.P. D.L.  
 1888 Howard, Joseph, Esq. B.A. Lond. J.P. F.R.G.S.  
 1911 Howson, Rev. Harold.  
 1911 Hughes, Thomas George, Esq.  
 1903 Hull, Charles Murchison, Esq. Civil Service, Natal.  
 1900 Hull, Edward Gordon, M.A. M.D. Dub.  
 1897 Hutton, Henry, Esq.  
 1890 Hyslop, Rev. James, M.A. Ph.D.  
 1904 †Irving, Rev. Alexander, D.Sc. F.G.S.  
 1902 †Jacob, Colonel Sir S. Swinton, K.C.I.E. Jaipur.  
 1898 Janvier, Rev. Cæsar A. Rodney, M.A. (Princeton).  
 1902 Jessop, Arthur, Esq.  
 1907 Jewett, Rev. Professor Frank L. B.A. B.D.  
 1907 Job, Rev. Charles Robert M.A. Camb.  
 1910 Johnson, Miss E. Zoë.  
 1911 Johnson, Rev. Gifford H. M.A.  
 1896 †Johnstone, Miss J. A.  
 1912 Karslake, John B. P. Esq. M.A. F.S.A.  
 1879 Kaye, The Ven. W. F. J. M.A. Oxon. Archdeacon and  
     Canon of Lincoln.  
 ⚭ Kemble, Mrs. Stephen Cattley.  
 1884 Kimball, John E. Esq. A.M. Yale (Sup. Pub. Sc.).  
 1887 Kirkpatrick, Rev. R. C. M.A. Oxon. and Dub.  
 1908 Kizer, Rev. Edwin D.  
 1880 †Knight, Rev. C. F. M.A. Camb.  
 1908 Kwang, Sim Boon, Esq. Singapore.  
 1884 Lach-Szyrma, Rev. W. S. M.A. Oxon.  
 1905 Lampe, Rev. Joseph L. D.D.  
 1873 Lawrence, Ven. Archdeacon C. D. M.A.

- 1873 Lea, Miss G. E.  
 1905 Lees, Rev. Harrington Clare, M.A.  
 1901 LEFROY, The Right Rev. G. A. D.D. Bishop of Lahore,  
 India.  
 1911 Leslie, Wilson Edwards, Esq.  
 1873 †Lewis, Rev. J. S. M.A.  
 1911 Lightfoot, Rev. J. A. M.A. Oxon Principal C.M.S.  
 College, Islington, N.  
 1897 Linton, Rev. E. C. M.A. Camb.  
 1883 †Lock, Rev. W. M.A. D.D. Oxon. Fell. Jun. Bursar and  
 Tutor of Magdalen, Warden of Keble College.  
 1892 †Logan, The Honourable James D.  
 1901 Lönnbeck, Fredrick Waldemar, Stockholm.  
 1909 Lovely, Rev. F. Cecil, B.A. Oxon.  
 1887 Lowber, Rev. Chancellor J. W. M.A. LL.D. D.C.L.  
 Sc.D. Ph.D. P.S.D. F.R.G.S. Litt.D.  
 1888 Lowrie, Rev. S. T. M.A. D.D.  
 1910 Macgregor, Colonel Henry Grey, C.B.  
 1882 Maitland, Rev. H. F. M.A. Oxon.  
 1912 †Major, Charles H. F. Esq.  
 1911 Mansel-Pleydell, Rev. J. C. M. M.A.  
 1911 †Manson, Miss Amy.  
 1909 ¶\*Marston, Rev. Herbert J. R. M.A. Durh.  
 1893 †Martineau, A. E. Esq. (Ind. Civ. Serv.).  
 1892 ¶†Masterman, E. W. Gurney, Esq. M.D. Durh. F.R.C.S.  
 F.R.G.S. D.P.H.  
 1901 Matthews, Ernest R. Esq. A.M.I.C.E. F.G.S.  
 1912 Maunder, George William, Esq.  
 1909 Maunsell, Rev. F. W. M.A. Dub.  
 1888 Maxwell of Calderwood, Lady.  
 1911 McCormick, Rev. Samuel Black, D.D. LL.D. Chan-  
 cellor of Pittsburgh University.  
 1892 ¶Mello, Rev. J. Magens, M.A. F.G.S.  
 1889 Millingen, J. R. Van, Esq.  
 1903 MITCHINSON, Right Rev. Bishop J. D.D. D.C.L.  
 1899 Moffat, Rev. J. S. C.M.G.  
 1892 †Molony, Major Francis A. R.E.  
 1907 Moore, Rev. Henry N. M.A.  
 1912 Morier, Miss.  
 1882 Moule, Ven. Archdeacon A. E. B.D. D.D.  
 1878 †Mullings, John, Esq.  
 1893 Munt, George William, Esq.  
 1871 †Nelson, J. H. Esq. M.A.  
 1885 †Neve, A. Esq. F.R.C.S. L.R.C.P. Edin.  
 1888 †Nimr, Faris, Esq. (Ed. "Mouktataf"), Cairo.  
 1887 Norbury, Inspector-Gen. Sir H. F. K.C.B. M.D.  
 F.R.C.S. R.N.  
 1912 Norris, Rev. William Burell, M.A.  
 1912 Nugent, Miss Sophia M. A.  
 1879 †Oake, Rev. R. C.

- 1886 Oates, Rev. Alfred.  
 1880 O'Dell, Professor Stackpool E.  
 1908 †Oke, Alfred William, Esq. B.A. LL.M.  
 1911 Outram, Francis D. Esq. late Lieut. R.E. A.M.I.C.E.  
 1883 Paterson, Rev. T. M. B.  
 1903 Payne, George Herbert, Esq.  
 1885 †Payne, J. A. Otonba, Esq. F.R.G.S. Chief Registrar  
 and Taxing Master of the Supreme Court of Lagos.  
 1894 Peake, A. S. Rev. Professor, M.A. D.D. Oxon. Fell.  
 Merton, late Tutor Mansfield Coll. Oxon.  
 1911 Pearce, The Dowager Lady.  
 1908 Peirce, Harold, Esq.  
 1887 †Penford, Rev. E. J.  
 1908 Perkins, E. Walter, Esq.  
 1911 Pickersgill-Cunliffe, Miss Mary H.  
 1884 Piper, F. H. Esq.  
 1881 Pippet, Rev. W. A.  
 1912 Plaister, William Henry, Esq. M.R.C.S.  
 1896 Plantz, Rev. President Samuel, D.D. Ph.D.  
 1911 Poate, William Henry, Esq.  
 1898 ¶\*Potter, Ven. Archdeacon Beresford, M.A. T.C.D.  
 1881 Pratt, Rev. J. W. M.A. D.D.  
 1880 †Priestley, Rev. J. J. S.P.G.  
 1888 †Pringle, of Torwoodlee, Mrs.  
 1903 Proctor, Henry, Esq. H.M.C.S. M.R.A.S. F.R.S.L.  
 1891 Reddie, Edward J. Esq.  
 1876 Rendell, Rev. Canon A. M. M.A. Camb.  
 1899 Revie, Dugald, Esq. M.B. C.M. Glas. Univ. late Free  
 Church of Scot. Medical Mission.  
 1877 Rhodes, Rev. D.  
 1911 Rice, Philip, Esq. M.D.  
 1885 Riggs, Rev. J. F. B.A. M.A. D.D.  
 1910 Roberts, Rev. Samuel.  
 1912 Roberts, Vernon, Esq.  
 1899 ¶Robinson, Rev. Andrew Craig, M.A.  
 1895 Robinson, Maj.-General C. G. R.A.  
 1906 Roscoe, John Henry, Esq.  
 1911 Rose, Reverend P.  
 1884 †Ross, Rev. G. H. W. Lockhart, B.A.  
 1908 Rouse, Miss Ellen.  
 1881 ROYSTON, The Right Rev. Bishop P. S. D.D.  
 1891 St. Johns, New Brunswick Free Pub. Lib. J. R. Reul,  
 Esq. Chairman.  
 1903 Salmensaari, Herra Sulo, M.A. Finland.  
 1881 Sandford, H. Esq.  
 1895 SASKATCHEWAN, Rt. Rev. J. Newnham, D.D. Bishop of.  
 1891\* ¶Schofield, Alfred Taylor, Esq. M.D.  
 1908 Schwartz, John, Esq. Junior.  
 1912 Scott, John, Esq. J.P.  
 1911 Seagram, W. H. Esq.

- 1906 Searle, Malcolm W. Esq. K.C. M.A. LL.B.  
 1876 †Seeley, Rev. E.  
 1910 Shann, William Arthur, Esq. M.B. Cantab.  
 1911 Sharp, Harry Nugent, Esq. M.A.  
 1875 ¶Sharp, Rev. J. M.A. Queen's Coll. Oxon.; late Editorial Superintendent, Bible Soc.  
 1882 Shepherd, Mrs. F. Wolfskill De.  
 1911 Sheppard, Rev. James W. ffranck, M.A. Dub.  
 1901 †Sherard, Rev. Clement E. M.A. Camb.  
 1882 Shore, Captain the Hon. H. N. R.N.  
 1906 Sidebottom, Colonel W. J.P.  
 1876 ¶\*†Sinclair, The Ven. Archdeacon W. Macdonald, M.A. D.D. form. Sch. of Balliol, Oxon.  
 1903 SINGAPORE, Rt. Rev. C. J. Ferguson Davie, Bishop of.  
 1909 \*Skrine, Rev. John Huntley, M.A. Oxon. D.D.  
 1892 Smith, Hon. Sir Charles Abercrombie, M.A. Fell. St. Peter's Coll. Camb.  
 1873 Smith, Major-General E. Davidson.  
 1896 Smith, His Honor Judge George Hugh.  
 1893 Smith, Sir George J. J.P. D.L.  
 1906 \*Smith, Heywood, Esq. M.A. M.D.  
 1891 Smith, S. Ashley, Esq. M.D.  
 1901 †Smith-Bosanquet, Miss Ella.  
 1902 Smyth, William Woods, Esq. L.R.C.S. L.R.C.P.  
 1903 Spencer, Professor J. W. Ph.D. F.G.S.  
 1909 Spokes, Miss Margaret.  
 1879 ¶Statham, E. J. Esq. C.E. A.I.C.E.  
 1911 Stevens, Rev. Thomas Palmer.  
 1879 †Stewart, Alex. Esq.  
 1912 Stewart, Rev. David Alexander, M.A. Camb.  
 1872 Stewart, Sir Mark J. McTaggart, Bart. M.A. M.P.  
 1912 Stewart, Thomas Andrew, Esq.  
 1890 †Stokes, Anson Phelps, Esq. Vice-Pres. XIX Cent. Club U.S.A. Memb. Council, S.S. Assoc.  
 1894 Stokes, James, Esq. Officer of the Legion of Honour.  
 1887 Stokes, Rev. W. Fenwick, M.A.  
 1903 Stovin, Mrs. Caroline.  
 1911 Strange, Miss Mary R.  
 1902 †Strong, John Alexander, Esq.  
 1902 †Strong, Rev. Rupert S. M.A. Camb.  
 1895 Swinburne, Hon. George, C.E.  
 1899 Symonds, Hon. J. W.  
 1899 †Talmage, Professor James E. Ph.D. F.R.M.S. F.G.S. F.R.S.E. F.G.S.A.  
 1882 Taylor, Rev. Hugh Walker, M.A.  
 1891 †Taylor, Rev. Stephen, B.A. Corpus C. Coll. Camb.  
 1905 Thomas, Rev. W. H. Griffith, D.D. late Principal Wycliffe Hall, Oxford.  
 1911 Thornton, Rev. Claude Cyprian, M.A. Camb.  
 1906 Tindall, Miss Caroline.

- 1910 Titterington, Edw. J. G. Esq. M.A.  
 1871 Tremlett, Rev. Dr. F. W. D.D. D.C.L. Hon. Ph.D.  
 Jena Univ. F.R.G.S. Chaplain to Lord Waterpark,  
 Eccles. Com. for American Prelates and the Univ.  
 of the South.  
 1909 Trench, F. P. Esq. M.B. F.R.C.S. Edin.  
 1911 Trotter, Mrs. Edward.  
 1911 Trotter, Mrs. Stuart.  
 1902 Trumbull, C. G. Esq. Philadelphia.  
 1909 Turner, Arthur Charlewood, Esq. M.A. Camb.  
 1908 Turner, Rev. Ralph Charlewood, M.A. Camb.  
 1882 TUTTLE, Right Rev. D. S. D.D. Bishop of Missouri.  
 1902 Twigg, John Hill, Esq. late India Civil Service.  
 1898 Tydeman, E. Esq. B.A. F.R.G.S. Lawrence Military  
 Asylum.  
 1887 Uhl, Rev. L. L. D.D. Principal A.E.L.M. College,  
 Guntur, India.  
 1912 Vismes, Major H. J. H. de.  
 1912 Waldegrave, The Hon. Granville George, B.A. Camb.  
 1910 Walker, William Sylvester, Esq.  
 1893 Waller, Rev. C. Cameron, M.A. Camb. Principal of  
 Huron Coll.  
 1889 †Wallis, Right Rev. Frederic, D.D. late Bishop of  
 Wellington.  
 1892 Walter, Rev. H. M. M.A. Oriel Oxon.  
 1894 Ward, H. B. Esq.  
 1881 Waring, F. J. Esq. C.M.G. M.Inst.C.E.  
 1895 Way, the Right Hon. Sir Samuel James, D.C.L. LL.D.  
 Chief Justice S. Aust.  
 1895 Weaver, George M. Esq.  
 1879 Webb-Peploe, Rev. Prebendary H. W. M.A. Camb.  
 1911 Wedekind, George Hermann, Esq.  
 1893\*†WELLDON, Right Rev. Bishop J. E. C. D.D. Dean of  
 Manchester.  
 1911 Weller, William, Esq.  
 1887 Wherry, Rev. E. M. D.D. Lodhiana, Punjâb, India.  
 1907 ¶White, Rev. G. E. M.A. D.D. Dean of Anatolia  
 College.  
 1882 ¶White, Rev. J. M.A. T.C.D. Hon. M.A. Magd. Oxf.  
 1894 †Whitehead, Rev. George, B.A. Lond.  
 1911 Whitfield, Peter, Esq.  
 1881 ¶Whiting, Rev. J. Bradford, M.A. Camb.  
 1870¶†Whitmee, Rev. S. J. F.R.G.S. Cor. Mem. Z.S.  
 1881 †Williams, H. S. Esq. M.A. F.R.A.S. A.C.  
 1876 Williams, Right Rev. William Leonard, B.A. late  
 Bishop of Waiapu.  
 1896 †Wills, Harold Temple, Esq. M.A. B.Sc.  
 1910 Wilson, Henry, Esq.  
 1907 Winfield, Rev. J. Abbott.  
 1912 Wingate, Sir Andrew, K.C.I.E.

- 1911 Wingfield, C. H. Esq.  
 1885 Winslow, Rev. W. C. D.D. D.C.L. LL.D. L.H.D. D.Sc.  
 S.T.D. Ph.D. Amer. Vice - President Egypt  
 Exploration Fund.  
 1889 †Winter, The Ven. Archdeacon G. Smith.  
 1877 Wood, The Venerable A. Maitland, M.A. Archdeacon  
 of Macclesfield.  
 1893 Wood, Peter F. Esq. F.R.G.S.  
 1899 Wood, Walter James, Esq. F.R.M.S.  
 1892 †Woodd, Rev. C. H. Basil, M.A. Camb. Nat. Sci. Trip.  
 1890, M.A.  
 1877 Worthington, T. Esq. B.A. T.C.D.  
 1903 †Wright, Rev. Ernest Alexanderson, M.A.  
 1912 Wyatt, Herman Richard, Esq.  
 1912 Yeldham, Miss F. A.  
**Y** Young, Rev. Charles, M.A. Camb.  
 1912 Young, Sir W. Mackworth, K.C.S.I.

## MISSIONARY ASSOCIATES.

- ¶ Baylis, Rev. F. *Ferndale, Warren Road, Reigate.*  
 Bomford, Rev. Trevor, M.A. *Peshawar, Punjab.*  
 Byrde, Rev. Louis, B.A., *Yung Chow Fu, Hunan, China.*  
 Carpentaria, Right Rev. Bishop of, *Thursday Island, Queensland.*  
 Carus-Wilson, E., Esq. *Woodlea, Barnet, N.*  
 Cavalier, Rev. A. R. *Lindula, Northwood, Middlesex.*  
 Elwin, Rev. W. H. B.A. 7, *Sasugaya Cho, Koishikawa, Tokyo.*  
 Fisher, Rev. William M.A., *Bible House, 146, Queen Victoria Street, E.C.*  
 Joseland, Rev. Frank P. *Amoy, China.*  
 Moore, Rev. E. A. L., *Royapet House, Madras.*  
 Moule, Ven. Archdeacon W. S. M.A. *Ningpo, China.*  
 Mylrea, Rev. C. Stanley G. M.D. *Bahrein, Arabia.*  
 Reade, Miss F. *Theological Library, Cuddalore, S. India.*  
 Robinson, Miss L. G. *Berhampore, Bengal.*  
 Thornton, Right Rev. Bishop S. D.D. 89, *Broadhurst Gardens, N.W.*  
 Turner, Rev. G. Reynolds, M.B. *Hwei-an-hsein, S. China.*  
 Woodley, Rev. E. C. *The Parsonage, Danville, Montreal.*

## LIBRARY ASSOCIATES.

- Adelaide Public Library, *South Australia*.  
 Berlin Royal Library (per Asher & Co.).  
 Birmingham Free Library.  
 Boston Public Library (per Kegan Paul & Co.).  
 Chicago Public Library.  
 Chicago University, *U.S.A.*  
 Cornell University, *U.S.A.*  
 Dublin Society, Royal.  
 Harvard University (per Kegan Paul & Co.).  
 Libraire Le Soudier, 174B, *St. Germaine, Paris*.  
 Manchester, The John Rylands Library.  
 Melbourne Public Lib. and Museum, *Melbourne, Victoria*.  
 Michigan, University of Ann Arbor.  
 Mitchell Library (F. T. Barrett, Esq.), 21, *Miller Street, Glasgow*.  
 Newcastle-on-Tyne Public Library.  
 New York Public Library, *New York, U.S.A.*  
 Nottingham Public Library.  
 Ottawa, Library of Parliament.  
 Preston, Public Library.  
 Rochester Theological Seminary, *U.S.A.*  
 Rugby School Library.  
 St. Andrews University Library.  
 Sydney Free Library, *New South Wales*.  
 Texas University, *Austin, Texas, U.S.A.*  
 Wellington, *New Zealand, General Assembly Rooms Library*.  
 Worcester Public Library, *Mass., U.S.A.*  
 Yale University Library, *New Haven, Conn., U.S.A.*



SOCIETIES EXCHANGING TRANSACTIONS WITH  
THE INSTITUTE.

American Academy of Arts and Sciences.  
 American Geographical Society.  
 American Geological Society.  
 American Journal of Archæology.  
 American Journal of Philology (Johns Hopkins Press).  
 American Philosophical Society.  
 Anthropological Society, New York.  
 Anthropological Society, Washington.  
 Archæological Institute of America.  
 Canadian Institute.  
 Colonial Museum of New Zealand.  
 Geographical Society of California.  
 Geographical Society of the Pacific.  
 Geological Society.  
 Harvard Museum of Comp. Zoology.  
 Manitoba Historical and Scientific Society.  
 Michigan, Agricultural College of, U.S.  
 New Zealand Institute.  
 Nova Scotian Inst. of Natural Science.  
 Royal Asiatic Society, Bombay.  
 Royal Colonial Institute.  
 Royal Dublin Society.  
 Royal Geographical Society.  
 Royal Institution.  
 Royal Irish Academy.  
 The Royal Society.  
 Royal Society of Canada.  
 Royal United Service Institution.  
 Smithsonian Institution (Washington).  
 Société Scientifique du Chili.  
 Society of Arts.  
 Society of Biblical Literature, U.S.  
 Soc. Bib. Lit. and Exeg., Boston.  
 Sydney Museum, New South Wales.  
 Sydney Observatory, New South Wales.  
 United States Bureau of Ethnology.  
 United States Geological Survey.  
 United States Government Geological and Geographical Survey.  
 United States Government Reports.

## HON. CORRESPONDING MEMBERS.

## HOME.

- 1902 ¶Ball, Sir R. S. LL.D. F.R.S. Prof. of Astronomy, Camb.  
*The Observatory, Cambridge.*
- 1892 Clifford, Right Rev. A. D.D.
- 1890 ¶Geikie, Prof. James, D.C.L. LL.D. F.R.S. F.R.S.E. F.G.S.;  
Prof. Geo. and Min. Univ. Edin. Hon. Mem. Phil. Soc.  
York, Geo. Soc. Stockholm and Geo. Palæo. Hydrol.  
Belg. Memb. Amer. Phil. Soc. Cor. Memb. Acad. Sci.  
Phila. 31, *Merchiston Avenue, Edinburgh.*
- 1908 ¶Gill, Sir David, K.C.B. LL.D. F.R.S. 34, *De Vere  
Gardens, Kensington, W.*
- 1881 ¶Guppy, H. B. Esq. M.B. F.G.S. Mem. Min. Soc. &c. *Rosario,  
Salcombe, S. Devon.*
- 1903 Howorth, Sir Henry H. K.C.I.E. F.R.S. 30, *Collingham  
Place, S.W.*
- 1888 ¶Hughes, Prof. T. M'K. M.A. F.R.S. F.S.A. F.G.S.; Wood-  
wardian Prof. of Geology, Cambridge, Trin. Coll.  
Camb. *Ravensworth, Brooklands Avenue, Cambridge.*
- 1886 Mylne, Right Rev. L. G. D.D. *Alvechurch Rectory,  
Birmingham.*
- 1903 ¶Petrie, Prof. W. Flinders, D.C.L. 18, *Well Road, Hamp-  
stead, N.W.*
- 1889\*¶Pinches, Theo. G. Esq. LL.D. "Sippara," 10, *Oxford Road,  
Kilburn, N.W.*
- 1889 ¶Sayce, Rev. Prof. A. H. M.A. LL.D. Fellow and Tutor  
Queen's Coll. Oxford.
- 1899 Turner, Sir William, V.D. M.B. LL.D. D.C.L. D.Sc. F.R.S.  
Prof. Anatomy, Univ. Edin. 6, *Eton Terrace, Edinburgh.*
- 1890 Wakefield, Right Rev. G. R. Eden, D.D. Bishop of.
- 1905 Woodward, Dr. Henry, F.R.S. F.G.S. 129, *Beaufort Street,  
Chelsea.*

## FOREIGN.

- 1895 HIS MAJESTY KING MOMOLU MASSAQUOI, West Africa.
- 1881 Abbe, Professor Cleveland, M.A. Assistant in the office of  
the Chief Signal Officer of the Weather Bureau, U.S.A.
- 1883 Beckwith, The Right Rev. J. W. D.D. U.S.A.
- 1884 Herzog, Right Rev. E. D.D. Bishop of the Old Catholic  
Ch. of Switzerland, *Berne.*
- 1895 Hilprecht, Rev. Professor H. V. D.D. *Univ. of Pennsyl-  
vania, U.S.A.*

- 1893 Hommel, Prof. Fritz, Ph.D. LL.D. Prof. of Semitic Languages in Univ. of Munich, *Leopolds Strasse, Munich.*
- 1889 d'Hulst, Court Riamo, *Cairo.*
- 1878 Jaggard, Right Rev. Bishop T. A. D.D. Bishop of S. Ohio, *Episcopal Rooms, Cincinnati, Ohio, U.S.A.*
- 1895 Lugard, His Excellency Brigadier-General Sir F. J. D. C.B. D.S.O. Governor of Hong Kong.
- 1896 ¶ Macloskie, Prof. G. D.Sc. LL.D. Prof. Biology (Princeton), U.S.A.
- 1883 ¶ Maspero, Prof. Sir Gaston, K.C.M.G. D.C.L. *Collège de France, Cairo, Egypt; 24, Avenue de l'Observatoire, Paris.*
- 1904 Nansen, Prof. Fridtjof, D.Sc. LL.D. D.C.L. *Lysaker, Norway.*
- 1883 ¶ Naville, E. D.Lit. Ph.D. *Malagny, Geneva, Switzerland.*
- 1888 North China, Right Rev. C. P. Scott, D.D. Bishop of, *Peking, North China.*
- 1890 Ottawa, Right Rev. C. Hamilton, D.D. D.C.L. Bishop of.
- 1895 Sabatier, Professor Armand, M.D. *Montpellier, France.*
- 1898 Stosch, Rev. Prof. D.D. 24, *Lutzow Street, Berlin.*
- 1904 ¶ Upham, Warren, Esq. M.A. D.Sc. F.G.S. Amer. Sec. Minnesota Historical Society.
- 1880 Vail, Right Rev. T. H. D.D. Bishop, *U.S.A.*
- 1898 Zahn, Rev. Prof. T. H. *Erlangen.*

## ADDITIONAL HON. CORRESPONDENTS.

- Adams, Rev. Richard, M.A. T.C.D. 87, *Burntwood Lane, S.E.*  
 Anderson, J. F. Esq. F.R.G.S. *Melrose, Curepipe, Mauritius.*  
 Batchelor, W. Esq. 7, *Agnes Road, Northampton.*  
 Brants, M. A. Esq. Ph.D. Burgomaster, *Schiedam, Holland.*  
 Brown, Rev. J. B. M.A. *St. James' Vicarage, Darwin.*  
 Burke, Rev. R. G. M.A. LL.B. *Lilydale, Melbourne.*  
 Caldecott, Rev. Professor A. M.A. D.D. D.Litt. 13, *Howden Road, S. Norwood, S.E.*  
 Corbet, Frederick H. M. Esq. Barrister-at-Law, F.R.C.I. F.I.Inst. Hon. Executive Officer for Ceylon at the Imperial Institute, 42, *Kenilworth Avenue, Wimbledon.*  
 Davies, Rev. R. V. Faithfull, M.A. 15, *Southend Road, Beckenham.*  
 Davis, Rev. W. B. M.A. *Lupton, Torquay.*  
 Dixon, Prof. J. M. *Washington Univ. St. Louis, Mo. U.S.A.*  
 East, Rev. H. E. *Leithfield, Christchurch, New Zealand.*  
 ¶Eells, Rev. M. M.A. *Union City, Mason Co. Washington, D.C., U.S.A.*  
 Finn, Mrs. 75, *Brook Green, W.*  
 Fleming, Rev. T. S. F.R.G.S. *Boston Spa, Leeds (JF).*  
 ¶Frost, Edward P. Esq. D.L. J.P. *West Wrattling Hall, Cambridge.*  
 Gissing, Admiral C. E. R.N. (ret.) F.R.G.S. *United Service Club, S.W.; Homestead, Queen's Park, South Drive, Bournemouth.*  
 Gubbins, Surgeon-General Sir W. L. M.D. K.C.B. M.V.O. K.H.S. Army Medical Staff, *War Office, 18, Victoria Street, S.W.; St. John's, Worcester Park, Surrey.*  
 Harris, A. H. Esq. c/o I.M. Customs, *Hong Kong, China.*  
 Harrison, Rev. A. J. B.D. LL.D. *Magdalen Lodge, North End, Newcastle.*  
 Hassell, Joseph, Esq. *Brittany Lodge, London Road, St. Leonards.*  
 Hechler, Rev. Prof. W. H. *City House Hotel, 160, City Road, E.C.*  
 Hetherington, Rev. J. *St. Peter's Vicarage, Hull.*  
 Hudson, Rev. Canon J. C. M.A. *Thornton Vicarage, Horncastle.*  
 Hutchinson, Rev. A. B. *Fukuoka, Japan.*  
 Hutchinson, Rev. T. S. M.A. 13, *Aldridge Road Villas, Westbourne Park, W.*  
 Kerr, Robert, Esq. 14, *Loudoun Terrace, Kelvinside, Glasgow.*  
 ¶Kidd, Walter A. Esq. M.D. B.S. M.R.C.S. F.Z.S. 12, *Montpelier Row, Blackheath.*  
 Kydd, Robert, Esq. 164, *Stobcross Street, Glasgow.*  
 McLeod, Rev. R. F. *Walsden Vicarage, Todmorden.*  
 Nutt, Rev. George, *The Rectory, Lhuidas Vale, Jamaica.*  
 Oates, Rev. W. *Somerset East, South Africa.*

- O'Donel, G. H. Esq. *Mission School, Seoni Chappara, C.P. India.*  
 Oliver, Rev. T. D.D. 118, *Hampton Road, Southport.*  
 Oulton, Rev. R. C. M.A. B.D. 17, *Warrington Place, Dublin.*  
 ¶Parker, Prof. H. W. 47, *7th Avenue, New York, N.Y. U.S.A.*  
 Peet, Rev. Stephen D. Ph.D. Editor "American Antiquarian,"  
 5817 *Madison Avenue, Chicago, Ill. U.S.A.*  
 Perowne, Edward S. M. Esq. F.S.A. 20 *Randolph Road, Maida  
 Vale, W.*  
 Petherick, Rev. G. W. B.A. *Hawksleigh, Southport.*  
 Postlethwaite, J. Esq. F.G.S. *Cockermouth, Keswick and Penrith  
 Railway, Keswick.*  
 Ragg, Rev. F. W. M.A. *The Manor House, Lower Boddington,  
 Byfield.*  
 Ramanathan, P. B.A., M.R.A.S., F.R.H.S., *Manónmani Villas,  
 Chintadripet, Madras.*  
 Redman, Rev. J. *Simla, India.*  
 Robertson, Rev. Alex. D.D. *Ca' Struan, Ponte della Salute, Venice.*  
 Shipham, Rev. Arthur, *The Mound, Matlock Bridge.*  
 Simpson, Prof. J. Y. M.A. D.Sc. F.R.S.E. *New College, Edinburgh.*  
 Stefansson, Jon, Esq. Ph.D.  
 Storrs, Rev. W. T. B.D. *Vicarage, Sandown, I.W.*  
 Thomas, Rev. James, British and Foreign Bible Society,  
 146, *Queen Victoria Street, E.C.*  
 ¶Tisdall, Rev. W. St. Clair, M.A. D.D. 32, *Kimbolton Road, Bedford.*  
 Walter, Rev. J. C. B.A. *Langton Rectory, Horncastle.*  
 Weidemann, Professor Alfred, Ph.D. 2, *König St. Bonn.*  
 Whiteway, Rev. R. W. B. *Beulah House, Selby, Yorks.*  
 Williams, W. Esq. Supt. Govt. Telegraphs, India (ret.), *Crofton,  
 Combe Park, Bath.*  
 Willis, R. N. Esq. M.B. 2, *Carlton Terrace, Rathmines, Dublin.*  
 Willis, T. Gilbert, Esq. 4, *Kildare Street, Dublin.*  
 Winslow, Rev. W. C. Ph.D. D.D. D.C.L. LL.D. D.Sc. 525, *Beacon  
 Street, Boston, U.S.A.*  
 ¶Zimmerman, Rev. Jeremiah D.D. 109, *South Avenue, Syracuse,  
 N.Y., U.S.A.*  
 ¶Zwemer, Rev. S. M. M.A. D.D. F.R.G.S. *Bahrein, Persian Gulf.*

OBJECTS, CONSTITUTION, AND BYE-LAWS

OF

The Victoria Institute,

OR

Philosophical Society of Great Britain.

Adopted at the First Annual General Meeting of the Members and Associates,  
May 27th, 1867, with Revisions of 1874-75, 1910 and 1912.

—\*—

§ I. *Objects.*

I. THE VICTORIA INSTITUTE, OR PHILOSOPHICAL SOCIETY OF GREAT BRITAIN, is established for the purpose of promoting the following objects, viz.:—

First. To investigate fully and impartially the most important questions of Philosophy and Science, but more especially those that bear upon the great truths revealed in Holy Scripture; with the view of reconciling any apparent discrepancies between Christianity and Science.

Second. To associate together men of Science and authors who have already been engaged in such investigations, and all others who may be interested in them, in order to strengthen their efforts by association; and, by bringing together the results of such labours, after full discussion, in the printed transactions of an Institution: to give greater force and influence to proofs and arguments which might be little known, or even disregarded, if put forward merely by individuals.

Third. To consider the mutual bearings of the various scientific conclusions arrived at in the several distinct branches into which Science is now divided, in order to get rid of contradictions and conflicting hypotheses, and thus promote the real advancement of true science; and to examine and discuss all supposed scientific results with reference to final causes, and the more comprehensive and fundamental principles of Philosophy proper, based upon faith in the existence of one Eternal God, who, in His wisdom, created all things very good.

Fourth. To publish Papers read before the Society in furtherance of the above objects, along with full reports of the discussions thereon, in the form of a Journal, or as the Transactions of the Institute.

Fifth. When subjects have been fully discussed, to make the results known by means of Lectures of a more popular kind, and to publish such Lectures.

Sixth. To publish English translations of important foreign works of real scientific and philosophical value, especially those bearing upon the relation between the Scriptures and Science; and to co-operate with other philosophical societies at home and abroad, which are now or may hereafter be formed, in the interest of Scriptural truth and of real science, and generally in furtherance of the objects of this Society.

Seventh. To found a Library and Reading Rooms for the use of the Members and Associates of the Institute, combining the principal advantages of a Literary Club.

## § II. *Constitution.*

1. The Society shall consist of Members and Associates, who in future shall be elected as hereinafter set forth.

2. The government of the Society shall be vested in a Council (whose Members shall be chosen from among the Members and Associates of the Society and be professedly Christians), consisting of a President, two or more [not exceeding seven], Vice-Presidents, an

Honorary Treasurer, and twelve or more [not exceeding twenty-four] Ordinary Members of Council. The Trustees for the time being of the funds of the Institute shall be *ex officio* Members of the Council.

3. The President, Vice-Presidents and Honorary Officers [other than the Trustees for the time being of the funds of the Institute] shall be elected annually at the Annual General Meeting of the Institute, with power to the Council to fill up any casual vacancies.

At the Annual General Meeting in each year, one-third of the Ordinary Members of Council [or if their number be not a multiple of three then the number nearest to one-third] shall also retire, in order of seniority of election to the Council, and be eligible for re-election : as between Members of equal seniority the Members to retire shall be chosen from among them by ballot [unless such Members shall agree between themselves]. Vacancies thus created shall be filled up at the Annual General Meeting, but any casual vacancies may be filled up by the Council.

4. For the annual elections taking place under Rule 3, nominations may be made by Members of the Institute and sent to the Secretary not later than December 1st in any year. The Council may also nominate for vacancies, and all nominations shall be submitted to the Members and Associates at the time when notice of the Annual General Meeting is posted.

If more nominations are made than there are vacancies on the Council the election shall be by ballot.

5. Any person desirous of becoming a Member or Associate shall send to the Secretary an application for admission, which shall be signed by one Member or Associate recommending the Candidate for admission.

6. Upon such application being transmitted to the Secretary, the candidate may be elected by the Council, and enrolled as a Member or Associate of the Victoria Institute, in such a manner as the Council may deem proper.

7. Application for admission to join the Institute being made as before laid down, such application shall be considered as *ipso facto* pledging all who are thereupon admitted as Members or Associates to



observe the Rules and Bye-laws of the Society, and as indicative of their desire and intention to further its objects and interests ; and it is also to be understood that only such as are professedly Christians are entitled to become Members.

8. Each Member shall pay an Entrance Fee of One Guinea, which the Council may from time to time suspend, and an Annual Contribution of Two Guineas. A Donation of Twenty Guineas shall constitute the donor a Life Member.

9. Each Associate shall pay an Annual Contribution of One Guinea. A donation of Ten Guineas shall constitute the donor a Life Associate.

10. The Annual Contributions shall be considered as due in advance on the 1st day of January in each year or, by resolution of the Council, on the anniversary of election, and shall be paid within three months after that date ; or, in the case of new admissions within three months after election.

11. Any Member or Associate who contributes a donation in one sum of not less than Sixty Guineas to the funds of the Institute shall be enrolled as a Vice-Patron thereof, and will thus also become a Life Member or Life Associate, as the case may be.

12. Should any member of the Royal Family hereafter become the Patron, or a Vice-Patron, or Member of the Institute, the connexion shall be regarded as purely Honorary ; and none of the Rules and Bye-Laws relating to donations, annual contributions or obligations to serve in any office of the Society, shall be considered as applicable to such personages of Royal Blood.

13. Any Member or Associate may withdraw from the Society at any time, by signifying a desire to do so by letter, addressed to the Secretary ; but such shall be liable for the contribution of the current year, and shall continue liable for the annual contribution, until all sums due to the Society from such Member or Associate shall have been paid, and all books or other property borrowed from the Society shall have been returned or replaced.

14. Should there appear cause, in the opinion of the Council, for the exclusion from the Society of any Member or Associate, a private intimation may be made by direction of the Council, in order to give such Member or Associate an opportunity of withdrawing from the

Society ; but, if deemed necessary by the Council, a Special General Meeting of Members shall be called for the purpose of considering the propriety of expelling any such person : whereat, if eleven or more Members shall ballot, and a majority of those balloting shall vote that such person be expelled, he shall be expelled accordingly. One month's notice, at least, shall be given to the Members of any such Special General Meeting.

15. Non-resident Members and Associates, or others desirous of promoting the objects and interests of the Institute, may be elected by the Council to act as corresponding Members abroad, or as Honorary Local Secretaries, if within the United Kingdom, under such arrangements as the Council may deem advisable.

16. The whole property and effects of the Society shall be vested in two or more Trustees, who shall be chosen at a General Meeting of the Society. The Trustees are empowered to invest such sums as the Council may, from time to time, place in their hands, in, or upon any of the Stocks, Funds, or Securities, for the time being, authorized by statute for the investment of trust funds by trustees, and shall have the usual powers of trustees in regard thereto. [The President, the Hon. Treasurer, and the Secretary may officially give effect to such resolutions as a General Meeting may pass in regard thereto.]

17. All moneys received on account of the Institute shall be duly paid to its credit at the Bankers, and all cheques shall be drawn, under authority of the Council, and shall be signed by any two of the following, the Chairman of Council, the Honorary Treasurer and the Secretary.

18. The accounts shall be audited annually, by a Committee, consisting of two Members or Associates,—one of whom may be on the Council,—to be elected at an Ordinary Meeting of the Society preceding the Anniversary Meeting. This Committee shall make a written Report to the Council at the first Meeting after such audit, and also to the Institute, upon the day of the Annual General Meeting,—stating the balance in the Treasurer's hands and the general state of the funds of the Institute.

### § III. *Bye-Laws* (Privileges).

1. A Member or Associate, when elected, shall be so informed by the Secretary in a printed copy of the letters, Form B, in the Appendix.

2. Members and Associates shall not be entitled to any privileges, or have the right to be present, or to vote at any of the Meetings of the Society, till they have paid the contributions due by them.

3. Annual subscriptions shall be considered as in arrear if not paid within three months after they become due.

4. Should any annual subscription remain in arrear for six months the Secretary shall forward to the Member or Associate from whom the subscription is due, a letter, Form D, unless such Member or Associate reside out of the United Kingdom, in which case the Form D shall not be sent unless the subscription continues unpaid for twelve months.

5. If any arrears be not paid within twelve months, the Council shall use their discretion in erasing the name of the defaulter from the list of Members or Associates.

6. Members shall be entitled to introduce two Visitors at the Ordinary Meetings of the Society; and to have sent to them a copy of all the Papers read before the Society, which may be printed in its Transactions or otherwise, and of all other official documents which the Council may cause to be printed for the Society; they will also be entitled to a copy of all such translations of foreign works or other books as are published under the auspices of the Society in furtherance of the Sixth Object (§ I.).

7. Associates may introduce two Visitors at the Ordinary Meetings, and shall be entitled to all the minor publications of the Society, and to a copy of its Transactions during the period of their being Associates, but not to the translations of foreign works or other books above referred to.\* It shall, however, be competent to the Council of the Society, when its funds will admit of it, to issue the other publications of the Society to Associates, being ministers of religion, either gratuitously or at as small a charge as the Council may deem proper.

8. When it shall be found necessary to send the letter, Form D, to any Member or Associate who may be in arrear, the printed papers and other publications of the Society shall cease to be sent to such Member or Associate till the arrears are paid; and, until then, he shall not be

---

\* These, as well as the Transactions issued in the years previous to their joining, may be purchased at such prices as the Council may determine.

allowed to attend any Meeting of the Society, nor have access to any public rooms which may be in its occupation.

9. The Library shall be under the management and direction of the Council, who are empowered to designate such works as shall not be allowed to circulate.

10. Members may borrow books from the Library, and have not more than three volumes in their possession at the same time ; pamphlets and periodical publications are not to be kept above fourteen days, nor any other book above three weeks. Associates may see books in the Library during office hours.

11. Members who may borrow books from the Library shall be answerable for the full value of any work that is lost or injured.

12. Periodical publications shall remain on the table for a month, other books for a fortnight, after they are received.

13. When a book or pamphlet is wanted, and has been the stipulated time in the possession of any Member, the Secretary shall request its return, and a fine of threepence a day shall be incurred for every day it may be detained, which fine shall commence on the third day after the transmission of the notice in the case of town Members, and after the sixth day in the case of country Members ; and until the return of such works, and the discharge of all fines incurred, no further issue of books shall be permitted to the Member applied to.

14. The books shall be ordered in for inspection at such times as the Council shall appoint, and a fine of half-a-crown shall be incurred for neglecting to send in books by the time required in the notice.

15. A book shall lie on the Library table in which Members may insert, for the consideration of the Council, the titles of such works as they desire to be purchased for the Institute.

#### § IV. *Bye-Laws* (General and Ordinary Meetings).

1. A General Meeting of Members and Associates shall be held annually on 24th May (being Her late Majesty's birthday, and the Society's anniversary), or on the Monday following, or on such other day as the Council may determine as most convenient, to receive the Report

of the Council on the state of the Society, and to deliberate thereon ; to discuss and determine such matters as may be brought forward relative to the affairs of the Society ; and to elect Members of Council and Officers for the ensuing year.

2. The Council shall call a Special General Meeting of the Members and Associates, when it seems to them necessary, or when required to do so by requisition, signed by not less than ten Members and Associates specifying the question intended to be submitted to such Meeting. Two weeks' notice must be given of any such Special General Meeting ; and only the subjects of which notice has been given shall be discussed thereat. No alteration in, or addition to, the existing rules shall be made except at such Special General Meeting.

3. The Ordinary Meetings of the Society shall usually be held on the first and third Monday afternoons or evenings in each month, from January to June inclusive and in December : or on such other afternoons or evenings as the Council may determine to be convenient : and a printed card of the Meetings for each Session shall be forwarded to each Member and Associate.

4. At the Ordinary Meetings the order of proceeding shall be as follows : The President, or one of the Vice-Presidents, or a Member of the Council or someone specially invited by the Council shall take the chair at the time fixed for the commencement of the Meeting ; the minutes of the last Ordinary Meeting shall be read by the Secretary, and, if found correct, shall be signed by the Chairman ; the names of new Members and Associates shall be read ; the presents made to the Society since their last Meeting shall be announced ; and any other communications which the Council think desirable shall be made to the Meeting. After which, the Paper or Papers intended for discussion shall be announced and read, and the persons present shall be invited by the Chairman to make any observations thereon which they may wish to offer.

The claims of Members and Associates to take part in a discussion are prior to those of Visitors. The latter, when desiring to speak upon any Paper, must first send their cards to the Chairman and ask permission, (unless they have been specially invited by the Council to attend, and join in considering the subject before the Meeting, or are called upon by the Chairman).

5. The Papers read before the Society, and the discussions thereon fully reported, shall be printed by order of the Council ; or, if not, the Council shall, if they see fit, state the grounds upon which this Rule has been departed from, in the printed Journal or Transactions of the Society.

6. The Council may at their discretion authorize Papers of a general kind to be read at any of the Ordinary Meetings, either as introductory lectures upon subjects proper to be afterwards discussed, or as the results of discussions which have taken place, in furtherance of the Fifth Object (§ I).

7. The Council may, at its discretion, request any Lecturer or Author of a paper to be read at any Meeting, previously to submit an outline of the proposed method of treating his subject.

8. At the Ordinary Meetings no question relating to the Rules or General Management of the affairs of the Society shall be introduced, discussed or determined.

#### § V. *Bye-Laws* (Council Meetings).

1. The Council shall meet at least once every month from October to June inclusive, or at any other time and on such days as they may deem expedient. The President, or any three Members of the Council, may at any time call a Special Meeting, to which the whole Council shall be summoned.

2. At Council Meetings three shall be a quorum ; the decision of the majority shall be considered as the decision of the Meeting, and the Chairman shall have a casting vote.

3. Minutes of the Proceedings shall be taken by the Secretary, or, in case of his absence, by some Member present, whom the Chairman may appoint ; which Minutes shall afterwards be entered in a minute-book kept for that purpose, and read at the next Meeting of the Council, when, if found correct, they shall be signed by the Chairman.

#### § VI. *Bye-Laws* (Papers).

1. Papers presented to be read before the Society shall, when read, be considered as the property of the Society, unless there shall have been any previous engagement with its author to the contrary ; and the Council may cause the same to be published in any way and at any time they may think proper after having been read. If a Paper be not read, it shall be returned to the author ; and, if a Paper be not published

within a reasonable time after having been read, the author shall be entitled himself to publish it, and he may borrow it for that purpose.

2. When a Paper is sent to the Society for the purpose of being read, it shall be laid before the Council, who may refer it to two of that body, or of the other Members or Associates of the Society whom they may select, for their opinions as to the character of the Paper and its fitness or otherwise for being read before the Society, which they shall state as briefly as may be, in writing, along with the grounds of their respective opinions. Should one of such opinions be adverse to the Paper and against its being read before the Society, then it shall be referred to some other referee, who is unaware of the opinion already pronounced upon the Paper, in order that he may state his opinion upon it in like manner. Should this opinion be adverse to the Paper, the Council shall then consult and decide whether the Paper shall be rejected or read ; and, if rejected, the Paper shall be returned to the author with an intimation of the purport of the adverse opinions which have been given with respect to it ; but the names of the referees are not to be communicated to him, unless with their consent or by order of the Council. All such references and communications are to be regarded as confidential, except in so far as the Council may please to direct otherwise.

3. The Council may authorize Papers to be read without such previous reference for an opinion thereon ; and when a paper has been referred, and the opinion is in favour of its being read in whole or in part, the Council shall then cause it to be placed in the List of Papers to be so read accordingly, and the author shall receive due notice of the day fixed for its reading.

4. The authors of Papers read before the Society shall, if they desire it, be presented with twenty-five separate copies of their Paper, with the discussion thereon, or with such other number as may be determined upon by the Council.

#### § VII. *Bye-Laws* (General).

1. The government of the Society, and the management of its concerns are entrusted to the Council, subject to no other restrictions than are herein imposed, and to no other interference than may arise from the acts of Members and Associates in General Meeting assembled.

2. With respect to the duties of the President, Vice-Presidents and other Officers and Members of Council, and any other matters not herein specially provided for, the Council may make any regulations and

arrangements as they deem proper, and as shall appear to them most conducive to the good government and management of the Society, and the promotion of its objects. And the Council may hire apartments, and appoint persons, whether Members of the Council, or Members or Associates of the Institute, or not, to be salaried officers, clerks, or servants, for carrying on the necessary business of the Society ; and may allow them respectively such salaries, gratuities, and privileges, as to them, the Council, may seem proper ; and they may suspend any such officer, clerk or servant from his office and duties, whenever there shall seem to them occasion ; provided always, that every such appointment or suspension shall be reported by the Council to the next ensuing General Meeting of the Members and Associates to be then confirmed or otherwise as such Meeting may think fit.



# FORM A.

FORM OF APPLICATION for the Admission of *Vice-Patrons, Members, or Associates of the*  
 VICTORIA INSTITUTE.

[Date]. \_\_\_\_\_ 19 \_\_\_\_\_  
 of the VICTORIA

*I hereby desire to be enrolled a\**

INSTITUTE, OR PHILOSOPHICAL SOCIETY OF GREAT BRITAIN

<p>* Here insert                  Vice-Patron,                  or                  Member,                  or                  Life Member,                  or                  Associate,                  or                  Life Associate.</p>	<p style="text-align: center;">Candidate's ordinary Signature, and full                  name, if necessary.</p> <p style="text-align: center;">Title, Profession, University degree, &amp;c.,                  or other distinction.</p> <p style="text-align: center;">Address.</p> <p style="text-align: center;">If an Author, the name of the Candidate's                  works may be here stated.</p>
--	---

*When filled this form is to be sent to the*

Honorary Secretary of the VICTORIA INSTITUTE,  
 1, Adelphi Terrace House, Strand, London, W.C.

## FORM B.

SIR,

19 .

I have the pleasure to inform you, with reference to your application dated the \_\_\_\_\_, that you have duly been elected a \_\_\_\_\_ of the VICTORIA INSTITUTE, OR PHILOSOPHICAL SOCIETY OF GREAT BRITAIN.

I have the honour to be, Sir,  
Your faithful Servant,

To \_\_\_\_\_

Sec.

## FORM C.

(Bankers) Messrs. \_\_\_\_\_

\* Please pay Messrs. BARCLAY & Co., 1, Pall Mall East, S.W., my Annual Contribution of TWO GUINEAS to the VICTORIA INSTITUTE, due on the 1st of January, 19 \_\_\_\_\_, and the same amount on that day in every succeeding year, until further notice.

I am,  
Your obedient Servant,

\_\_\_\_\_ 19 .

If this Form be used, please add your Signature, Banker's Name, and the Date, and return it to the Office, 1, Adelphi Terrace House, W.C. Receipt-stamp required.

\* The above is the form for Members. The form for Associates is the same except that the Subscription stands as "ONE GUINEA."

THE  
VICTORIA INSTITUTE  
TRANSACTIONS.

---

INDEX.

---

*October, 1912.*

Back numbers of these Volumes can be obtained from the Secretary at the following prices :—

Vols. XLIII and XLII at 10*s.* 6*d.* each.

Vols. XLI to XXXV at 2*s.* 0*d.* „

Previous Vols. at 1*s.* 0*d.* ... „

(Vols. I, III, and V excepted.)

1, ADELPHI TERRACE HOUSE,  
CHARING CROSS, W.C.

## INDEX TO AUTHORS.

---

- Arthur, Rev. W. Time and space. Vol. 22.  
Ashwin, Rev. C. Godfrey, M.A. Modern science and natural religion. Vol. 23.  
Avery, Prof. J. On the religion of the Aboriginal tribes of India. Vol. 19.
- Ball, Sir Robt., LL.D., F.R.S. Origin of new stars. Annual Address. Vol. 33.  
Bardsley, Archdeacon. The origin of man. Vol. 17.  
Bateman, Mr. J. F., F.R.S., F.R.S.E. Darwinism tested by recent researches in language. Vol. 7.  
— Meteorology, rainfall. Vol. 15.  
Baylee, Rev. J., D.D. Nature of human language, etc. Vol. 3.  
Baylis, Rev. F., M.A. Science in relation to Missions. Vol. 43.  
Beale, Prof. Lionel S., M.B., F.R.C.P.Lond., F.R.S. New materialism unscientific. Vol. 16.  
— The living and the non-living. Vol. 16.  
— The new materialism. Vol. 16.  
— Structure and structureless. Vol. 20.  
— The nature of life. Vol. 32.  
— Vitality. Vol. 33.  
— Water essential to all life. Vol. 34.  
— The living God of living nature from the science side. Vol. 35.  
— Unseen life of our world and of living growth. Vol. 35.  
— Obituary notice, June 1906. Vol. 38.
- Bernard, Prof., D.D. The philosophic basis of the argument from design Vol. 26.
- Bey, Dr. Grant. The climate of Egypt in Geologic, Prehistoric, and Ancient Historic Times. Vol. 32.
- Birks, Rev. Prof., M.A. Indestructibility of force. Vol. 9.  
— On the uncertainties of modern physical science. Vol. 11.  
— On the Bible and modern astronomy. Vol. 11.  
— Modern geogenies and the antiquity of man. Vol. 13.
- Blackett, Rev. W. R., M.A. Some thoughts on the evolution of religions. Vol. 19.
- Blencowe, Rev. G. Modern science of religion. Vol. 15 (Max Müller's Chips, etc.).  
— Human responsibility. Vol. 19.
- Bompas, Mr. G. Cox., F.G.S. Evolution and design. Vol. 29.
- Boord, Miss Hilda. On the hot lakes district, New Zealand. Vol. 36.
- Boscawen, Mr. W. St. C., F.R.Hist.Soc. Cuneiform inscriptions as illustrating times of Jewish captivity. Vol. 18.  
— Historical evidences of the migration of Abram. Vol. 20.
- Boulton, Rev. T. P., LL.D. Moral and social anarchy of modern unbelief Vol. 8. Annual address.

- Bree, Dr. C. R., M.D. Darwinism and its effects on religious thought. Vol. 7.
- Brinton, Dr. D. G. Human footprints in Nicaragua. Vol. 22.
- Brodie, Rev. J., M.A. Lessons taught us by geology in relation to God. Vol. 1.
- Brooke, Mr. Ch., M.A., F.R.S. Simplification of first principles in physical science. Vol. 3.
- Force and energy. Vol. 7.
- Brown, Mr. R., F.S.A. The system of Zoroaster—archaic monotheism. Vol. 13.
- Religion and mythology of the Aryans of N. Europe. Vol. 14.
- Language and the theories of its origin. Vol. 15.
- Bruce, Sir Charles, G.C.M.G., Annual address—The true temper of Empire. Vol. 43.
- Budge, Mr. E. A., M.A., M.R.A.S. Nebuchadnezzar, King of Babylon—recently discovered inscriptions of this King. Vol. 18.
- Bullen, Rev. R. Ashington, B.A., F.G.S. Eolithic implements. Vol. 33.
- Burnett, Mr. C. Mountford, V.P. Difference in scope between science and scripture. Vol. 1.
- Caldecott, Prof. A., King's College, London. Heredity and eugenics. Vol. 42.
- Callard, Mr. T. K., F.G.S. Does the contemporaneity of man with extinct mammalia prove the antiquity of man. Vol. 13.
- Breaks in the continuity of mammalian life at certain geological periods—fatal to Darwinism. Vol. 16.
- Carus-Wilson, Mr. C. A., M.A., M.I.C.E. Ezekiel's Vision of the Divine Glory. Vol. 41.
- Challis, Prof., M.A., F.R.S., F.R.A.S. On the principles of modern pantheistic and atheistic philosophy, etc. Vol. 8.
- On the magnitudes in creation, etc. Vol. 9.
- On the relation of the Bible account of the deluge to physical science. Vol. 10.
- On the metaphysics of scripture. Vol. 11.
- On the indestructibility of matter. Vol. 12.
- Chaplin, Dr. T. Some diseases mentioned in the Bible. Vol. 34.
- Charlesworth, Mr. E., F.G.S. On the structure of the gorilla. Vol. 20.
- On flint bodies in the chalk known as paramoudra. Vol. 26.
- Christian, Mr. F. W., B.A. On the evidence of Malay, Japanese, Arabian, and Persian admixture in the Inca or Keshua language of Peru, amongst the Aymara language of the peasant class. Vol. 40.
- Clarke, Rev. H. J., The fundamental assumptions of agnosticism. Vol. 20.
- Evolution. Vol. 21.
- The meaning and history of the logos of philosophy. Vol. 23.
- The science of rectitude as distinct from expedience. Vol. 24.
- Deontology. Vol. 25.
- Cloughton, Bp. Piers C., D.D. On Buddhism. Vol. 8.
- Cleland, Prof. J., F.R.S. Classification of the vertebrata. Vol. 30.
- Coles, Rev. J. J. B., M.A., F.R.G.S. Theosophy. Vol. 43.
- Collingwood, Dr. C., M.A., M.D. Instinct and reason. Vol. 24.
- Collins, Rev. R., M.A. On Buddhism. Vol. 18.
- On some characteristics of primitive religions. Vol. 19.
- On Krishna. Vol. 21.
- Buddhism and the light of Asia. Vol. 28.
- Conder, Col. C. R., R.E., D.C.L. On the Canaanites. Vol. 24.
- On the comparison of Asiatic languages. Vol. 27.
- Cooper, Mr. W. R., F.R.A.S., M.R.A.S. Serpent myths in ancient Egypt. Vol. 6.
- The myth of Ra. Vol. 11.
- The Horns myth. Vol. 12.

- Cotterill, Bp., D.D. On the relation of scientific thought to religion. Vol. 12.  
 — On the relation of science and religion—principles of unity, order, and causation. Vol. 15.
- Courtney, Dr. W. L., LL.D. On the reality of the self. Vol. 25.  
 — The alleged scepticism of Kant. Vol. 27.
- Crommelin, Dr. A. C. D., D.Sc., F.R.A.S. The return of Halley's comet. Vol. 42.
- Cunningham, Rev. W., D.D., Deacon of Ely. Christianity and Socialism. Vol. 41.
- Dabney, Prof. R. L., D.D., LL.D. Inductive logic. Vol. 19.  
 — On final cause. Vol. 20.
- Davison, Rev. M. The Noachian deluge. Vol. 4.
- Dawson, Sir J. Wm., C.M.G., F.R.S., etc. Introduction of genera and species in geological time. Vol. 7.  
 — Biblical interpretation in connection with science. Vol. 9.  
 — Flint agricultural implements of America. Vol. 11.  
 — Pliocene man in America. Vol. 15.  
 — On prehistoric man in Egypt and the Lebanon. Vol. 18.  
 — Chronology of animal life on the earth prior to advent of man. Vol. 20.  
 — Useful and ornamental stones of ancient Egypt. Vol. 26.  
 — Causes of climatal changes. Vol. 26.  
 — Specimens illustrating physical characters, etc., of Guanches of Canary Islands. Vol. 29.
- De la Mare, Rev. A., M.A. On theology as a science. Vol. 3.
- Duns, Prof. J., D.D., F.R.S.E. On the theory of natural selection and the theory of design. Vol. 20. Ditto Vol. 22.  
 — Stone folk-lore. Vol. 29.  
 — Marks of mind in nature. Vol. 32.
- Eells, Dr. M., Rev. The worship and traditions of the aborigines of America. Vol. 19.  
 — The worship and traditions of the aborigines of the islands of the Pacific Ocean. Vol. 32.
- Elwin, Rev. Arthur. Ancestral worship. Vol. 36.  
 — Confucianism. Vol. 37.
- English, Rev. W. W., M.A. On miracles, their compatibility with philosophical principles. Vol. 1.  
 — Ethical philosophy. Vol. 3.  
 — Biblical pneumatology and psychology. Vol. 6.
- Fayrer, Sir Joseph, M.D., K.C.S.I., F.R.S. On rainfall and climate of India. Vol. 15.  
 — On serpent worship and the venomous snakes of India. Vol. 26.
- Fisher, Rev. J., D.D. On the organ of the mind. Vol. 14.
- Fleay, Mr. Fredk. Gard., M.A. The synchronous chronology of the Kings of Israel and Judah. Vol. 36.
- Forsyth, Mr. W., Q.C., LL.D., V.P. On the rules of evidence as applicable to the credibility of history. Vol. 8.
- Fox, Mr. C. Dillworth. On the glaciers in the south island of New Zealand. Vol. 40.
- Fradenburgh, Dr. J. N., Ph.D., D.D., LL.D. The literature of Egypt in the time of Moses. Vol. 31.
- Fraser, Dr. J., LL.D. Aborigines of Australia, their ethnic position and relations. Vol. 22.

- Frazer, Rev. W. H., D.D. Experiences in South Africa during the war. Vol. 35.
- Frost, Dr. Edw. P., D.L. The influence of physiological discovery on thought. Vol. 37.
- Gabbett, Rev. Edw., M.A. On respective provinces of the observer and reasoner in scientific investigation. Vol. 4.
- Galton, Rev. Arthur, M.A. Present position of Catholics in France. Vol. 41.
- Garratt, Canon M.A. Samaritan text of the Pentateuch. Vol. 36.
- Geikie, Prof. James, D.C.L., F.R.S. The glacial period and the earth movement hypothesis. Vol. 26.
- Gerard, Rev. John. Species and their origin. Vol. 42.
- Gill, Sir David, LL.D., F.R.S. The sidereal universe. Vol. 43.
- Girdlestone, Rev. Canon, M.A. Scientific research and biblical study. Vol. 29.
- The resurrection of Jesus Christ April 17, 1905. Vol. 37.
- The scriptural idea of miracles. Vol. 39.
- Indications of a scheme in the universe. Vol. 43.
- Gladstone, Dr., F.R.S. Mutual helpfulness of theology and natural science. Vol. 1.
- Gordon, Surg.-Gen. Sir Ch. A., M.D., K.C.B., Q.H.P. On climate in relation to organic nature. Vol. 17.
- On certain theories of life. Vol. 17.
- Ethnology and ancient chronology of China. Vol. 23.
- Philosophy and medical knowledge of ancient India. Vol. 25.
- Chinese ethics and philosophy. Vol. 28.
- China's place in ancient history. Vol. 29.
- Gosse, P. H., Esq. On the high numbers in the Pentateuch. Vol. 5.
- Gosse, E. W., On the ethical condition of the early Scandinavian peoples. Vol. 9.
- Graham, Rev. C. Some scriptural aspects of man's tripartite nature. Vol. 6.
- Grimaldi, Rev. A. B., M.A. The zodiacal arrangement of the stars. Its historical and biblical connections. Vol. 38.
- Grimthorpe, Rt. Hon. Lord. Did the world evolve itself? Vol. 17.
- On the beauty of nature. Vol. 21.
- On human responsibility. Vol. 25.
- Griswold, Rev. H. D., M.A., Ph.D. Lahore. The Arya Samaj. Vol. 35.
- The Messiah of Qādiān. 15 May, 1905. Vol. 37.
- Ground, Rev. W. D. On Herbert Spencer's theory of the will. Vol. 16.
- Examination of the philosophy of Herbert Spencer. Vol. 16.
- Guppy, Mr. H. B., M.B., F.R.S.E. Keeling Atoll. Vol. 23.
- Coral Islands and savage myths. Vol. 23.
- Dispersal of the plants...of the Keeling Islands. Vol. 24.
- Polynesians and their plant names. Vol. 29.
- Plant distribution from an old standpoint. Vol. 39.
- Gwatkin, The Rev. Prof. H. M., Dixie Prof. Eccles. Hist. Camb. Arianism in its bearing on modern questions. Vol. 42.
- Hammond, Canon, LL.B. Samaritan passover of 1861. Vol. 36.
- Hassell, Mr. J. Theory of evolution taught by Haeckel, etc. Vol. 16.
- Was primeval man a savage? Vol. 19.
- On Agnosticism. Vol. 20.
- Hendley, Col. T. Holbein, C.I.E. Rajputs and the history of Rajputana. 16 Jan., 1905. Vol. 37.
- Orissa, a little known province of the Indian Empire. Vol. 39.
- Resemblances between Indian and Jewish ideas and customs. Vol. 40.



- Henslow, Rev. G., M.A., F.L.S. Certain analogies between methods of the Deity in nature and revelation. Vol. 4.
- Phyllotaxis. Arrangement of leaves by mathematical law. Vol. 6.
- Natural theology, with respect to modern philosophy. Vol. 7.
- Hill, Dr. Alex., V.C. of Camb. Univ. From reflex action to volition. Vol. 26.
- Hitchman, Dr. W., M.D. The true anthropology. Vol. 5.
- Holland, Rev. F. W., M.A. The topography of the Sinaitic Peninsula. Vol. 14.
- Hopkins, Evan, Esq., C.E., F.G.S. General character of geological formations. Vol. 1.
- Terrestrial changes and probable ages of the continents, founded on astronomical and geological facts. Vol. 2.
- Howard, D., F.C.S. The structure of geological formations an evidence of design. Vol. 11.
- Howard, Mr. J. E., F.R.S. On scientific facts and Christian evidence. Vol. 7.
- On contrast between crystallization and life. Vol. 8.
- On the early dawn of civilization from the Bible point of view. Vol. 9.
- An examination of the Belfast address from a scientific point of view. Vol. 10.
- On Egypt and the Bible. Vol. 10.
- The influence of true and false philosophy. Vol. 12.
- Creation and providence. Vol. 12.
- The Torquay caves and their teaching. Vol. 13.
- The Druids and their religion. Vol. 14.
- The early destinies of man. Vol. 15.
- Scientific facts and the caves of South Devon. Vol. 15.
- The supernatural in nature. Vol. 16.
- On certain definitions of matter. Vol. 17.
- Howorth, Sir Henry H., D.C.L., F.R.S. Ice or water. Vol. 38.
- Hudleston, Mr. Wilfred H., F.R.S. Origin of marine fauna of Tanganyika. Vol. 36.
- Biographical notice. Vol. 41.
- Hughes, Prof. T. McKenny, F.R.S. Evidence already obtained as to the antiquity of man. Vol. 13.
- Evidence of later movements of elevation and depression in British Isles. Vol. 14.
- On caves. Vol. 21.
- Cuts on bone as evidence of man's existence in remote ages. Vol. 23.
- Nationality. Vol. 32.
- Hull, Prof. Edw., M.A., LL.D., F.R.S. Petra. Vol. 21.
- Expedition to Arabia, Petræa and Palestine. Vol. 21.
- God in nature. Vol. 24.
- Sketch of the geological history of Egypt and the Nile Valley. Vol. 24.
- How the waters of the ocean became salt. Vol. 27.
- Holy scripture illustrated by recent discoveries in the East. Vol. 28.
- Supposed discovery of remains of animal between man and ape. Vol. 28.
- British Isles. Vol. 30.
- Proposed scheme for embanking waters of Nile. Vol. 30.
- Where is Sinai? See Vol. 31.
- Physical conditions of the Mediterranean basin. Vol. 31.
- Sub-oceanic terraces and river valleys on west coast of Europe. Vol. 31.
- Another cause of the glacial epoch. Vol. 31.
- Our coal resources at the end of the nineteenth century. Annual address. Vol. 32.
- Sub-oceanic river valleys of West African continent, etc. Vol. 32.
- Physical history of Norwegian Fjords. Vol. 34.
- Cheesewring, Cornwall, and its teaching. Vol. 35.
- Age of last uprise in the British Isles. Vol. 36.

- Hull, Prof. Edw., Thickness of the Lucerne glacier of the Post-Pliocene period. Vol. 36.
- Dr. Nansen's bathymetrical researches in the Arctic Ocean as compared with those on the Atlantic coast. Vol. 37.
- On the spread of existing animals through Europe and to the islands of the Atlantic; based on Dr. Scharf's recent work, "European animals." Vol. 40.
- Geneva and Chamounix half a century ago and to-day. Vol. 48.
- Abnormal conditions of water. Evidence of Design. Vol. 42.
- Hull, Miss E. H. The early Celtic churches of Britain and Ireland. Vol. 38.
- Irons, Preb., D.D. Analysis of human responsibility. Vol. 4 (twice).
- The Darwinian theory. Vol. 6.
- Prof. Tyndall's Fragments of science for unscientific people. Vol. 7.
- Mr. Mill's essay on theism. Vol. 9.
- Examination of the unseen universe. Vol. 11.
- Irving, Rev. A., D.Sc. Evolutionary law in the creation story. Vol. 38.
- Light, luminaries and life. Vol. 42.
- Jack, Dr. R. Logan, LL.D. Artesian water in Queensland. Vol. 34.
- James, W. P., F.L.S. The argument from design in nature. Vol. 17.
- Pessimism. Vol. 18.
- Relation of fossil botany to theories of evolution. Vol. 19.
- On accounts of the creation. Vol. 20.
- Jervis, Chev. W. P., F.G.S. Thalassographical and thalassological notes on the North Sea. Vol. 32.
- Prehistoric remains near Tenda, Italy. Vol. 36.
- The minerals and metals mentioned in the Old Testament. Vol. 37.
- Kelvin, Lord, G.C.V.O. Extracts from his Presidential address before British Association. Vol. 31. On design.
- The age of the earth as an abode of life. Annual address. Vol. 39.
- Kidd, Dr. Walter A., F.Z.S. Plan and purpose in nature. Vol. 31.
- Creation or evolution. Vol. 32.
- Methods of protection among animals. Vol. 33.
- Adaptation and selection in nature. Vol. 34.
- Two paths, one goal. Vol. 36.
- Kirby, Mr. W. F., F.G.S. The butterflies and moths of Africa. Vol. 23.
- Kirk, Rev. Prof. John. Past and present relations of geological science to sacred scriptures. Vol. 1.
- Relations of metaphysical and physical science to Christian doctrine of Prayer. Vol. 2.
- Doctrine of creation according to Darwin, Agassiz, and Moses. Vol. 4.
- Spontaneous generation; or, problem of life. Vol. 5.
- Origin of the moral sense. Vol. 7.
- Klein, Mr. Sydney T., F.L.S., F.R.A.S. Conception of the great reality. Vol. 36.
- Laming, Mr. R. Immediate derivation of science from the great first cause. Vol. 3.
- Lansdell, Rev. H., D.D., M.R.A.S., F.R.G.S. Tithe-giving among Pagan nations. Vol. 31.
- Legge, Prof. J., M.A., Oxford. Chinese chronology. Vol. 25.
- Leitner, Dr., Ph.D., LL.D., D.O.L. On the sciences of language and ethnography. Vol. 23.

- Lias**, Rev. Chancellor, M.A. Christianity as a moral power. Vol. 11.  
 — Mr. Mat. Arnold and modern culture. Vol. 12.  
 — Is it possible to know God? Vol. 17.  
 — Miracles, science, and prayer. Vol. 29.  
 — Modifications in the idea of God. Vol. 34.  
 — Modernism. Its origin and tendencies. Vol. 40.  
 — On the decay of Ultramontaniam from an historical point of view. Vol. 40.
- Lobley**, Prof. J. Logan, F.G.S., F.R.G.S. Sub-oceanic depression—"La fosse de Cap Breton." Vol. 33.  
 — Preparations of the earth for man's abode. Vol. 34.  
 — Volcanic action and the West Indian eruptions of 1902. Vol. 35.  
 — Biological change in geological time. Vol. 38.  
 — History of the spread of the European fauna. Vol. 39.  
 — The American fauna and its origin. Vol. 40.
- McCann**, Rev. J., D.D. A demonstration of the existence of God. Vol. 5.  
 — Force and its manifestations. Vol. 7.  
 — The nature and character of evidence for scientific purposes. Vol. 5.
- McCaul**, Rev. A. I., M.A. On biblical interpretation in connexion with science, Vol. 9.
- McCausland**, Dr., Q.C., LL.D. On some uses of sacred primeval history, Vol. 3.
- MacCulloch**, Rev. Canon. The descent into Hades; a study in comparative theology. Vol. 43.
- Macdonald**, Dr. John D., I.H.R.N., F.R.S. Man's place in creation. Vol. 4.  
 — The human colour sense and its accordance with that of sound as bearing on the analogy of sound and colour. Vol. 32.
- Macdougall**, Rev. J. The present day materialism. Vol. 10.
- Mackinlay**, Lt.-Col. G., late R.A. Biblical astronomy. Vol. 37.  
 — The morning star in the gospels. Vol. 38.  
 — The date of the Nativity was 8 B.C. Vol. 41.
- Mackintosh**, Mr. D., F.G.S. On the recency of the close of the glacial epoch, Vol. 19.
- Maclaren**, Mr. J. M., F.G.S. Physical history of the New Zealand Fjords. Vol. 34.
- Macloskie**, Prof. G., D.Sc., LL.D. The mechanical conception of Nature. Vol. 28.  
 — Common errors as to the relation of science and faith. Vol. 32.
- Main**, Rev. R., F.R.S., V.P.R.A.S. Modern philosophic scepticism examined. Vol. 10.
- Margoliouth**, Prof. D.S., D.Litt., Prof. of Arabic, Oxford. The future of Islam. Vol. 35.
- Marston**, Rev. H. J. R., M.A. Plato's theory of public education in relation to the Christian doctrine of human nature. Vol. 42.
- Maspero**, Prof. 'The list of Thothmes III. Vol. 20.  
 — Excavations round the Sphinx. Vol. 20.  
 — The list of Thothmes III. Vol. 22.  
 — The list of Shishak. Vol. 27.
- Masterman**, Dr. E. W. G. Water supply of Jerusalem. Vol. 35.  
 — Recent discoveries in Palestine in relation to the Bible. Vol. 39.
- Mathews**, Mr. R. H. Pictorial art among the Australian Aborigines. Vol. 33.
- Maunder**, Mr. E. Walter, F.R.A.S., Greenwich Observatory. Annual Address, The Bible and Astronomy. Vol. 40.
- Max Müller**, Prof. Note on Polynesians. Vol. 29.  
 — Note on Tithe givings. Vol. 31.

- Mello, Rev. J., M.A., F.G.S. The prehistoric factory of flints at Spennes. Vol. 18.  
 — The dawn of Metallurgy. Vol. 23  
 — On primitive man. Vol. 30.
- Mitchell, Rev. R. On the identity of reason in Science and Religion. Vol. 8.
- Mitchell, Rev. Walter, M.A. Falling stars and meteorites. Vol. 1.  
 — Inaugural Address, Vol. 1.  
 — Geometrical Iso-morphism of crystals . . . cubical system. Vol. 2.  
 — The unphilosophical character of some objections to divine inspiration of scripture. Vol. 3.
- Monier-Williams, Sir M., K.C.I.E., D.C.L. Egyptian discoveries in 1888. Vol. 21.  
 — Sacred books of the East. Vol. 21.  
 — Contrasts between doctrines of Buddhism and Christianity. Vol. 23.  
 — Annual Address. Vol. 23.  
 — The Monism, Pantheism and Dualism of Brahmanical and Zoroastrian philosophers. Vol. 25.
- Morris, Prof., of Baltimore. The final cause as principle of cognition and principle in nature. Vol. 9.  
 — The theory of unconscious intelligence as opposed to Theism. Vol. 11.
- Morshead, Mr. E. J. On comparative psychology. Vol. 3.  
 — On comparative psychology. Vol. 5.  
 — On comparative psychology. Vol. 11.
- Moule, Rev. H. More than one universal deluge recorded in scripture. Vol. 4.  
 — Israel in Egypt. Vol. 5.
- Murphy, Mr. J. J. Physical theory of moral freedom. Vol. 22.  
 — The factors of evolution in language. Vol. 23.
- Murray, Rt. Hon. Sir C., K.C.B. On flint arrow heads of delicate structure. Vol. 22.
- Naville, Dr. E., Ph.D. Historical results of excavations at Bubastis. Vol. 23.  
 — The route of the Exodus. Vol. 26.
- Neil, Rev. J., M.A. Land tenure in ancient times in Palestine. Vol. 24.
- Nicholson, Dr., Prof. H. A., M.D., F.R.S.E. On the bearing of certain palæontological facts on Darwinian theory of the origin of species and evolution in general. Vol. 9.  
 — On the place of science in education. Vol. 10.  
 — Of the nature of life. Vol. 14.
- Odling, Mr. C. W., C.I.E., M.Inst.C.E. Observations on irrigation works in India. Vol. 36.
- O'Neil, the Lord. The action of will in formation of universe. Vol. 15.  
 — The credibility of the supernatural. Vol. 16.  
 — On misrepresentations of Christianity. Vol. 18.
- Orchard, Prof. H. Langhorne, M.A., B.Sc. Philosophy and evolution. Vol. 40.  
 — Attitude of science towards miracles. Vol. 42. Gunning Prize, 1909.
- Parker, Prof. H. W., M.D. The principles of rank among animals. Vol. 27.
- Pattison, Mr. S. R., F.G.S. Geological proof of divine action. Vol. 5.  
 — On the chronology of recent geology. Vol. 10.  
 — Nature's limits : an argument for Theism. Vol. 12.  
 — Evolution of the pearly nautilus. Vol. 18.  
 — Pedigree of the coral reefs of England. Vol. 21.

- Peet, Rev. S. D. Traditions of the Aborigines of North America. Vol. 21.
- Penny, Mr. E. B. On miracles. Vol. 1.
- Petrie, Capt. F. W. H., F.G.S. On the Moabite Stone. Vol. 6.
- Antiquity of man. Note. Vol. 20.
- The late Prof. Asa Grey. Vol. 22.
- Importance of Babylonian excavations. Vol. 22.
- Science and religion. Vol. 23.
- Man's place in Nature. Vol. 24.
- Petrie, Prof. W. M. Flinders, D.C.L. Annual Address: Discoveries in Egypt. Vol. 35.
- Researches in Sinai. Vol. 39.
- Phene, Mr. J. S., LL.D., F.S.A. On prehistoric traditions and customs in connection with sun and serpent worship. Vol. 8.
- Pinches, Dr. Theophilus G., LL.D., M.R.A.S. Some recent discoveries in the realm of Assyriology. Vol. 26.
- Religious ideas of the Babylonians. Vol. 28.
- Certain inscriptions, etc., Babylonia and Elam. Vol. 29.
- Report on Congress on Religions, Paris. Vol. 33.
- Babylonian story of creation, Bel's fight with the dragon. Vol. 35.
- Report on Congress of Orientalists at Hamburg. Vol. 35.
- Hammurabi's code of laws. Vol. 35.
- Discoveries in Babylonia, etc. Vol. 41.
- Assur and Nineveh. 7 March, 1910, Vol. 42.
- Prof. Hilprecht's newly discovered deluge fragment. Vol. 43.
- Pope, Rev. G. U., D.D. History of the Mānikka Vācarga "Foe of Buddhists." Vol. 30.
- Porter, Prof. Noah, President of Yale University. On science and man. Vol. 13.
- On physiological metaphysics. Vol. 14.
- Porter, Rev. J. Leslie, D.C.L. Physical geography of the East. Vol. 12.
- Science not opposed to revelation. Vol. 18.
- Egypt, physical, historical, literary, and social. Vol. 20.
- Jewish, Phœnician and early Greek art. Vol. 21.
- Post, Prof. G. E., D.D. M.D. Meteorology of Syria and Palestine. Vol. 20.
- Botanical geography of Syria and Palestine. Vol. 22.
- Potter, Ven. Archdeacon Beresford. Determinism. Vol. 42.
- Powell, Rev. T., F.L.S. A Samoan tradition of the creation. Vol. 20.
- Prestwich, Sir J., K.C.B., D.C.L., F.R.S. A possible cause for the origin of the tradition of the Flood. Vol. 27.
- Putnam, Prof. Some Guanche skulls. Vol. 29.
- Ramsay, Sir William, F.R.S., D.C.L. Exploration of Asia Minor, as bearing on the historical trustworthiness of the New Testament. Vol. 39.
- A country town of Lycaonia. Vol. 41.
- Rassam Mr. Hormuzd. Late Assyrian and Babylonian research. Vol. 14.
- Babylonian cities. Vol. 17.
- The Garden of Eden: a criticism. Vol. 25.
- Biblical lands, races, customs, etc. Vol. 30.
- Reddie, Mr. James. On various theories of Man's past and present condition. Vol. 11.
- Geological chronology, in reply to Huxley. Vol. 2.
- On Utilitarianism. Vol. 2.
- On credibility of Darwinism. Vol. 2.
- Why man must believe in God. Vol. 5.
- Civilization: moral and material. Vol. 6.
- Richmond, Judge C. W. Materialism. Vol. 16.

- Robbins, Rev. J., D.D. Fatalism. Vol. 7.
- Robinson, Rev. Andrew Craig, M.A. The bearing of recent Oriental discoveries on Old Testament history. Second Gunning Prize, 1905. Vol. 38.
- Roget, Prof. F. F. On Ernest Naville. Vol. 43.
- Rouse, M. L., Esq., B.L. Procopius's African monument. Vol. 34.
- The Pedigree of the Nations. Vol. 38.
- The Pedigree of the Nations. Vol. 39.
- Row, Preb. C. A., M.A. On the relation of reason to philosophy, theology and revolution. Vol. 3.
- On some of the philosophical principles in Buckle's History of Civilization. Vol. 3.
- On the testimony of philosophy to Christianity as a moral and spiritual revelation. Vol. 5.
- Dr. Newman's Essay in aid of a Grammar of Assent. Vol. 6.
- Remarks on some of the current principles of historic criticism. Vol. 7.
- Principles of modern pantheistic and atheistic philosophy as expressed in the last work of Strauss, Mill, etc. Vol. 8.
- Rule, Rev. Dr. Monotheism. Vol. 12.
- Rutland, Mr. Joshua. The Maoris' place in history. Vol. 33.
- Saunders, Mr. Trelawney. Recent survey of West Palestine and its bearing on the Bible. Vol. 17.
- Saville, Rev. B. W., M.A. On evidence of Egyptian monuments to sojourn of Israel in Egypt. Vol. 6.
- On the harmony between chronology of Egypt and Bible. Vol. 9.
- On heathen cosmogonies compared with Hebrew. Vol. 10.
- Sayce, Rev. A. H., M.A., D.D., LL.D., Prof. of Assyriology, Oxford. Cuneiform inscriptions of Tel el Amarnâ. Vol. 24.
- Schofield, Dr. A. T., M.D. An inquiry into the formation of habit in man. Vol. 27.
- The natural and the artificial. Vol. 29.
- Some relations of mind and body. Vol. 30.
- The scope of mind. Vol. 32.
- Philosophy of education. Vol. 33.
- Springs of character. Vol. 34.
- Science and the unseen world. Vol. 41.
- Searle, Mr. G. F. C., M.A., F.R.S., Univ. Lect. in Expl. Physics, Camb. Modern conceptions of the universe. Vol. 42.
- Sharp, Rev. John, M.A. The last century's witness to the Bible. Vol. 43.
- Shaw, Rev. G. A., F.Z.S. Arab immigration in south-east Madagascar. Vol. 33.
- Sinclair, Ven. Arch., D.D. On the being of God. Vol. 33.
- Slater, Mr. J. W., F.C.S., F.E.S. The weak sides of natural selection. Vol. 26.
- The philosophy of Comte. Vol. 28.
- Life as compared with physical forces. Vol. 32.
- Smith, Dr. Gerard, M.R.C.S. Design as exemplified in the form of the human foot. Vol. 31.
- Smith, Judge G. H., Los Angeles, Cal. Jurisprudence, theory of. Vol. 43.
- Smith, Rev. I. Gregory, D.D. Psychology. Vol. 43.
- Smith, Bp. Saumarez, D.D. Practical optimism. Vol. 21.
- Southall, Dr., of U.S.A. Lapse of time since glacial epoch determined by date of polished stone age. Vol. 13.
- Pliocene man in America. Vol. 15.
- Spencer, Dr. J. W., M.A., Ph.D., F.G.S. On geological relationship of the volcanoes of the West Indies. Vol. 35.

- Statham, Mr. E. J., Assoc.M.Inst.C.E. Ancient script in Australia. Vol. 33.
- Stefansson, Dr. Jon., Ph.D. Iceland, its history and inhabitants. Vol. 34.
- Iceland, its history and inhabitants. Vol. 38.
- Stokes, Sir G. G., Prof. On the bearings of natural science, etc., on our religious ideas. Vol. 14.
- Absence of real opposition between science and revelation. Vol. 17.
- Annual Address. Vol. 20.
- The one origin of the books of Revelation and of Nature. Vol. 22.
- The luminiferous ether. Annual Meeting. Vol. 28.
- Perception of light. Annual Address, 1895. Vol. 29.
- Röntgen rays. Annual Address, 1896. Vol. 30.
- Perception of colour. Annual Address, 1897. Vol. 31.
- Taylor, the Rev. Isaac, M.A. On the Etruscan language. Vol. 10.
- The history of the alphabet. Vol. 12.
- Temple, Sir Richard, Bart., G.C.S.I. The unity of truth. Annual Address. Vol. 32.
- Thompson, Dr. J. P., D.D., LL.D. Final cause: a critique of the failure of Paley and fallacy of Hume. Vol. 13.
- Implements of the stone age as demarcation between man and animals. Vol. 15.
- Thompson, Dr. Silvanus P., F.R.S. Reconstruction and restatement. Annual Address. Vol. 37.
- Thornton, Rev. R., D.D. On comparative philology. Vol. 1.
- On the logic of scepticism. Vol. 2.
- On the credulity of scepticism. Vol. 4.
- The numerical system of the Old Testament. Vol. 5.
- The varying tactics of scepticism. Vol. 9.
- The sorrows of scepticism. Vol. 10.
- Thornton, Rt. Rev. Bishop S., D.D. Problems of aboriginal art in Australia. Vol. 30.
- Tisdall, Rev. W. St. Clair, D.D. Islâm. Vol. 25.
- Mithraism, Christianity's greatest rival under the Roman Emperors. Vol. 43.
- Titcomb, Bp., D.D. Antiquity of civilisation. Vol. 3.
- Common origin of American races with those of Old World. Vol. 3.
- Origin of the negro. Vol. 5.
- Prehistoric monotheism, in relation to man as an aboriginal savage. Vol. 6.
- Ethnic testimonies of the Pentateuch. Vol. 6.
- On magnitude in creation and their bearings on Biblical interpretation. Vol. 9.
- Tomkins, Rev. H. G. On history in the time of Abraham. Vol. 12.
- The life of Joseph (external sources). Vol. 15.
- Biblical proper names from sources external to Bible. Vol. 16.
- Recent Egyptological research in its biblical relations. Vol. 18.
- Tristram, Rev. H. B., D.D., LL.D., F.R.S. Canaan, ancient and modern. Vol. 21.
- Obituary notice, p. 12. Vol. 38.
- Tuckwell, Rev. John, M.R.A.S. Modern theories *re* composition of Holy Scripture. Vol. 35.
- Tulloch, Maj.-Gen., C.B., C.M.G. The passage of the Red Sea by the Israelites. Vol. 28.
- Turner, Rev. F. Storrs, B.A. The right way in psychology. Vol. 37.
- Mencius. Vol. 33.

- Upham, Dr. Warren, M.A., D.Sc., F.G.S.A., Hon. Corres. Member. On the post glacial period. Vol. 25.  
 — On the recession of Niagara Falls. Vol. 27.  
 — Causes of the ice age. Vol. 29.  
 — The divisions of the ice age. Vol. 33.  
 — The nebular and planetesimal theories of the earth's origin. Vol. 37.  
 — The San Francisco and Valparaiso earthquakes and their causes. Vol. 39.
- Urquhart, Rev. John. Gunning Prize Essay, 1905. The bearings of recent Oriental discoveries on Old Testament history. Vol. 38.
- Virchow, Prof. Rudolph. Remarks on evolution. Vol. 19.  
 — The origin of man. Vol. 24.
- Wace, Henry, the Very Rev. the Dean of Canterbury. On the ethics of beliefs. Vol. 11.  
 — On the data of ethics. Vol. 14.  
 — Ethics and religion. Vol. 33.  
 — Authority. Vol. 41.
- Walker, Rev. Dr. F. A., F.L.S. Oriental entomology. Vol. 21.  
 — Oriental entomology. Vol. 22.  
 — Colours in nature. Vol. 23.  
 — Botany and entomology of Iceland. Vol. 24.  
 — Herodotus (on Egyptian geology). Vol. 31.  
 — Hornets, British and foreign. Vol. 33.  
 — Locusts and grasshoppers. Vol. 34.  
 — Obituary notice, p. 100. Vol. 37.
- Walkey, Mr. R. H. Archæology and evolution. Vol. 29.
- Ward, Mr. H. B. Note on earthquake of San Francisco. Vol. 38.
- Warington, Mr. G., F.C.S. Existing relations between science and scripture. Vol. 1.  
 — Credibility of Darwinism. Vol. 2.  
 — Biblical cosmogony considered scientifically. Vol. 3.
- Warring, Dr. Chas. B., M.A., Ph.D. Geological exterminations. Vol. 37.
- Watson, Rev. H. C. M. On miracles. Vol. 20.
- Weldon, Rev. G. W., M.A. On the law of creation. Vol. 7.
- Welldon, Bishop, Dean of Manchester. Annual address. Development of the religious faculty in man, apart from revelation. Vol. 39.
- Whateley, Rev. A. R., D.D. The demand for a Christian philosophy. Vol. 43.
- Wheatley, Dr. J. H., Ph.D. On life, its origin. Vol. 3.  
 — On life, its origin. Vol. 4.
- Whidborne, Rev. G. F. Evolution from geological point of view. Vol. 33.  
 — Genesis of nature. Vol. 36.  
 — Biographical notice, p. 320. Vol. 42.
- White, Rev. G. E., Dean of Anatolia College, Turkey. Visit to the Hittite cities. Vol. 33.  
 — Survivals of primitive religion among people of Asia Minor. Vol. 39.  
 — The Shia Turks. Vol. 40.
- White, Rev. J., M.A. Remarks on evolution and development. Vol. 19.  
 — Darwinism and Malthus. Vol. 42.
- Whiting, Rev. J. B. The growth of the kingdom of God. Vol. 37.
- Whitley, Rev. D. Gath. Ivory islands in the Arctic Ocean. Vol. 42.  
 — Primeval man in Belgium. Vol. 40.
- Whitley, Mr. N. Brixham cavern and its testimony to antiquity of man. Vol. 8.



- Whitley, Mr. N. Palæolithic age examined. Vol. 8.  
 — Flint implements of Brixham cavern. Vol. 11.
- Whitmee, Rev. S. J., F.L.S. The ethnology of the Pacific. Vol. 14.
- Wiener, Mr. Harold M., M.A., LL.B. Legislations of Israel and Babylonia. Vol. 41.
- Wilson, Maj.-Gen. Sir C. W., R.E., F.R.S. Recent investigations in Moab and Edom. Vol. 33.  
 — The water supply of Jerusalem. Annual Address. Vol. 34.
- Wood, Rev. T., M.A. On the apparent cruelty of nature. Vol. 25.
- Woods-Smyth, Mr. W., L.R.C.S. The Bible in the light of modern science. Vol. 38.
- Woolfs, Rev. W., Ph.D., F.L.S. Remarks on the past, present, and future of the Australian flora. Vol. 32.
- Wright, Prof. G. Fredk., LL.D., F.G.S. Am. The influence of the glacial epoch upon the early history of mankind. Vol. 40.
- Wright, Rev. W., D.D. The empire of the Hittites. Vol. 21.
- Young, Prof. J. R. On the language of gesticulation and origin of speech. Vol. 1.
- Zwemer, Rev. S. M. Star worshippers of Mesopotamia. Vol. 31.  
 — Wahābīs; origin, history, tenets and influence. Vol. 33.
-

## INDEX TO SUBJECTS.

---

### Aborigines—

- Religion of aboriginal tribes of India. Avery. Vol. 19.
- Worship and traditions of — of America. Eells. Vol. 19.
- Traditions of — of North America. Peet. Vol. 21.
- of Australia. Fraser, J. Vol. 22.

### Abram—

- History in the time of —. Jenkins. Vol. 12.
- Historical evidences of the migration of —. Boscawen. Vol. 20.

### Africa. The butterflies and moths of —. Kirby. Vol. 23.

### Agassiz. Creation according to Darwin, —, and Moses. Kirk. Vol. 4.

### Agnosticism—

- Fundamental assumptions of —. Clarke. Vol. 20.
- On —. Hassell. Vol. 20.

### Alphabet. The History of —. Taylor. Vol. 12.

### America—

- Common origin of American races with those of the Old World. Titcomb. Vol. 3.

### Traditions of aborigines of North —. Peet. Vol. 21.

### Fauna and origin of —. Lobley. Vol. 40.

### Ancestral worship. Elwin. Vol. 36.

### Anthropology. The true —. Hitchman. Vol. 5.

### Arabia. Expedition to — Petraea. Hull. Vol. 21.

### Archæology and evolution. Walkey. Vol. 28.

### Arianism in its bearing on modern questions. Gwatkin. Vol. 42.

### Arrow heads. Flint — of delicate structure. Murray. Vol. 22.

### Art. Jewish, Phœnician, and early Greek —. Porter. Vol. 21.

### Aryans. Religion and mythology of — of Northern Europe. Brown. Vol. 14.

### Arya Somaj. Griswold. Vol. 35.

### Asia. On the comparison of Asiatic languages. Conder. Vol. 27.

### Asia Minor—

- Exploration of —. Ramsay. Vol. 39.
- Survivals of primitive religion in —. White, G. E. Vol. 39.
- Lycaonia. Ramsay. Vol. 41.

### Assur and Nineveh. Pinches. Vol. 42.

### Assyriology—

- Late Assyrian and Babylonian research. Rassam. Vol. 14.
- Some recent discoveries in the realm of —. Pinches. Vol. 26.

### Astronomy—

- Used in relation to geological facts and ages. Hopkins. Vol. 2.
- On current physical —. Reddie. Vol. 4.
- Bible and modern —. Birks. Vol. 11.
- Biblical —. Mackinlay. Vol. 37.
- The Bible and —. Maunder. Vol. 40.

### Atoll. Keeling —. Guppy. Vol. 23.

**Australia—**

- Aborigines of —. Fraser, J. Vol. 22.  
 Problems of aboriginal art in —. Bishop Thornton. Vol. 30.  
 Flora of —. Woolls. Vol. 32.  
 Ancient script in —. Statham. Vol. 33.  
 Pictorial art among the aborigines. Mathews. Vol. 33.

Authority. Wace. Vol. 41.

**Babylonia—**

- Late Assyrian and Babylonian research. Rassam. Vol. 14.  
 Babylonian cities. Rassam. Vol. 17.  
 Nebuchadnezzar of —, recently discovered inscriptions. Budge. Vol. 18.  
 Importance of Babylonian excavations. Petrie. Vol. 22.  
 Religious ideas of —. Pinches. Vol. 28.  
 Inscriptions, etc. Pinches. Vol. 29.  
 Story of creation. Pinches. Vol. 35.  
 Discoveries in —. Pinches. Vol. 41.  
 Legislations of —. Wiener. Vol. 41.

Bathymetrical. Dr. Nansen's — researches, Arctic Ocean, etc. Hull.  
 Vol. 37.

**Bible—**

- Difference in scope between — and science. Burnett. Vol. 1.  
 Relations of geological science to Scriptures. Kirk. Vol. 1.  
 Sketch of the relations between — and science. Warrington. Vol. 1.  
 Importance of language and phraseology of —. Baylee. Vol. 3.  
 Objections to Divine inspiration of —. Mitchell, W. Vol. 3.  
 Biblical pneumatology and psychology. English. Vol. 6.  
 Biblical interpretation and science. McCaul. Vol. 9.  
 Early dawn of civilization in light of —. Howard. Vol. 9.  
 Magnitudes in creation and bearing on Biblical interpretation. Titcomb.  
 Vol. 9.  
 On harmony between chronology of Egypt and —. Saville. Vol. 9.  
 On Egypt and the —. Howard. Vol. 10.  
 — and modern astronomy. Birks. Vol. 11.  
 Metaphysics of Scripture. Challis. Vol. 11.  
 Biblical proper names from outside sources. Tomkins. Vol. 16.  
 Recent survey of West Palestine and its bearing on —. Saunders.  
 Vol. 17.  
 Recent Egyptological research and —. Tomkins. Vol. 18.  
 — illustrated and confirmed by recent discoveries, etc. Hall. Vol. 28.  
 Scientific research and Biblical study. Girdlestone. Vol. 29.  
 Biblical lands, customs, races, etc. Rassam. Vol. 30.  
 Diseases in —. Chaplin. Vol. 34.  
 Modern theories of construction of —. Tuckwell. Vol. 35.  
 The — in the light of modern science. Woods Smyth. Vol. 38.  
 The last century's witness to —. Sharp. Vol. 43.

**Biology—**

- The nature of life. Beale. Vol. 32.  
 Vitality. Beale. Vol. 33.  
 Water essential to life. Beale. Vol. 34.  
 Unseen life of our World. Beale. Vol. 35.

Bone. Cuts on — as evidence of man's existence. Hughes. Vol. 23.

**Brixham—**

- Its testimony to antiquity of man. Whitley, N. Vol. 8.  
 Flint implements of —. Whitley, N. Vol. 11.

Bubastis. Historical results of excavations at —. Naville. Vol. 23.

## Buddhism—

On ——. Claughton. Vol. 8.

On ——. Collins. Vol. 18.

Contrast between — and Christianity. Monier Williams. Vol. 23.

— and the Light of Asia. Collins. Vol. 28.

Butterflies. The — and moths of Africa. Kirby. Vol. 23.

## Canaan, see Palestine—

— ancient and modern. Tristram. Vol. 21.

On the Canaanites. Conder. Vol. 24.

Canary Islands. The Guanches of —. Dawson. Vol. 29.

Captivity. On cuneiform inscriptions *re* —. Boscawen. Vol. 18.

Catholics. Present position of —. Galton. Vol. 41.

## Caves—

Brixham —. Whitley, N. Vol. 8.

Brixham —. Whitley, N. Vol. 11.

Torquay —, etc. Howard. Vol. 13.

— of South Devon. Howard. Vol. 15.

Hughes. Vol. 21.

Celtic. Early — churches of Britain and Ireland. Hull, Miss. Vol. 38.

Character. Springs of —. Schofield. Vol. 34.

Cheesewring, Cornwall. Hull. Vol. 35.

## China—

Ethnology and ancient chronology of —. Gordon. Vol. 23.

Chinese Chronology. Legge. Vol. 25.

Chinese ethics and philosophy. Gordon. Vol. 28.

China's place in ancient history. Gordon. Vol. 29.

## Christianity—

— as a moral power. Lias. Vol. 11.

On misrepresentation of —. O'Neill. Vol. 18.

Civilization. Antiquity of —. Titcombe. Vol. 3.

## Climate—

— of India. Fayer. Vol. 15.

— in relation to organic nature. Gordon. Vol. 17.

Causes of climatic changes. Dawson. Vol. 26.

Coal. Our — resources end of nineteenth century. Hull. Vol. 32.

## Colour—

Colours in nature. Walker. Vol. 23.

Perception of —. Stokes. Vol. 31.

Comets. Halley's comet. Crommelin. Vol. 42.

Comte. The philosophy of —. Slater. Vol. 28.

Confucianism. Elwin, Arthur. Vol. 37.

## Coral—

Pedegree of the — reefs of England. Pattison. Vol. 21.

— Islands and savage myths. Guppy. Vol. 23.

## Cosmogonies—

On the Biblical — scientifically considered. Warington. Vol. 3.

On heathen — compared with Hebrew. Savile. Vol. 10.

## Creation—

Doctrine of —, according to Darwin, Agassiz, and Moses. Kirk. Vol. 4.

Man's place in —. Macdonald. Vol. 4.

Law of —, unity of plan, variety of form. Weldon. Vol. 7.

Magnitudes in —. Titcomb. Vol. 9.

— and Providence. Howard. Vol. 12.

A Samoan tradition of —. Powell. Vol. 20.

Accounts of —. James. Vol. 20.

Light, luminaries, and life in relation to —. Irving. Vol. 42.

- Criticism. Current principles of historic —. Row. Vol. 7.
- Crystallization—  
 Geometrical Isomorphism of crystals, and derivation of cubical system.  
 Mitchell, W. Vol. 2.  
 Contrast between — and life. Howard. Vol. 8.
- Cuneiform—  
 — inscriptions of Jewish captivity. Boscawen. Vol. 18.  
 The — inscriptions at Tel-el-Amarnâ. Sayce. Vol. 24.
- Darwinism—  
 Credibility of —. Warington, Reddie. Vol. 2.  
 The creation according to Darwin. Kirk. Vol. 4.  
 The Darwinian theory. Irons. Vol. 6.  
 — and its effects on religious thought. Bree. Vol. 7.  
 — tested by recent researches in language. Bateman. Vol. 7.  
 Bearing of palæontological facts on —. Nicholson. Vol. 9.  
 The weak sides of natural selection. Slater. Vol. 26.  
 — and Malthus. White. Vol. 42.
- Deluge—  
 More than one — recorded in Scripture. Moule. Vol. 4.  
 The Noachian —. Davison. Vol. 4.  
 Relation of Bible account of — to physical science. Challis. Vol. 10.  
 A possible cause of the origin of the tradition of —. Prestwich. Vol. 27.  
 Hilprecht's fragment on —. Pinches. Vol. 43.
- Deontology. Clarke. Vol. 25.
- Design—  
 Structure of geological formations as evidence of —. Howard, D.  
 Vol. 11.  
 The argument from — in nature. James. Vol. 17.  
 The theory of —. Duns. Vol. 20.  
 The theory of —. Duns. Vol. 22.  
 The philosophic basis of the argument from —. Bernard. Vol. 26.  
 Evolution and —. Bompas. Vol. 28.  
 — in nature, note. Kelvin. Vol. 31.  
 Adaptation and selection in nature —. Kidd. Vol. 34.  
 Abnormal conditions of water illustrating —. Hull. Vol. 42.
- Determinism and free will. Potter. Vol. 42.
- Devon. Scientific facts and the caves of South —. Howard. Vol. 15.
- Druids and their religion. Howard. Vol. 14.
- Dualism. Monier-Williams. Vol. 25.
- Earth—  
 as an abode fitted for life. Age of —. Kelvin. Vol. 31.  
 Preparation of — for man's abode. Lobley. Vol. 34.  
 Nebular and planetesimal theories of the earth's origin. Upham. Vol. 37.
- Earthquakes—  
 San Francisco. Ward, H. B. p. 17, Vol. 38.  
 Valparaiso and San Francisco. Upham. Vol. 39.
- East—  
 Physical geography of the —. Porter, J. L. Vol. 12.  
 Sacred books of the —. Monier-Williams. Vol. 21.
- Eden. The garden of —. Rassam. Vol. 25.
- Education—  
 Place of science in —. Nicholson. Vol. 10.  
 Philosophy of —. Schofield. Vol. 33.  
 Plato's theory of —. Marston. Vol. 42.

- Edom. Recent investigations in —. Wilson. Vol. 33.
- Egypt—  
 Israel in Egypt. Moule. Vol. 5.  
 Evidence for sojourn of Israel in —. Savile. Vol. 6.  
 Serpent myths in ancient —. Cooper. Vol. 6.  
 Harmony between chronology of — and Bible. Savile. Vol. 9.  
 On — and the Bible. Howard. Vol. 10.  
 Prehistoric man in —. Dawson. Vol. 18.  
 Recent Egyptological research in its Biblical relations. Tomkins. Vol. 18.  
 Egypt: physical, historical, literary, and social. Porter. Vol. 20  
 Egyptian discoveries in 1888. Monier-Williams. Vol. 21.  
 Geological history of —. Hull. Vol. 24.  
 Useful and ornamental stones of ancient —. Dawson. Vol. 26.  
 Literature of — in time of Moses. Fradenburgh. Vol. 31.  
 Geology of —. Herodotus. Walker. Vol. 31.  
 Climate of — in ancient times. Grant Bey. Vol. 32.  
 Annual address. Petrie, W. Flinders. Vol. 35.
- Elam. Inscriptions at —, etc. Pinches. Vol. 29.
- Empire. True temper of —. Bruce. Vol. 43.
- Entomology—  
 Oriental —. Butterflies. Walker. Vol. 21.  
 Oriental —. Walker. Vol. 22.
- Eolithic implements. Bullen. Vol. 33.
- Ether. The luminiferous —. Stokes. Vol. 28.
- Ethics—  
 Ethical philosophy. English. Vol. 3.  
 On the ethical condition of Scandinavians. Gosse. Vol. 9.  
 On the — of belief. Wace. Vol. 11.  
 On the data of —. Wace. Vol. 14.  
 — and religion. Wace. Vol. 33.
- Ethnography. Sciences of language and —. Leitner. Vol. 23.
- Ethnology—  
 Ethnic testimonies to the Pentateuch. Titcomb. Vol. 6.  
 The — of the Pacific. Whitmee. Vol. 14.
- Eugenics. Heredity and —. Caldecott. Vol. 42.
- European. Fauna of —, spread of. Lobley. Vol. 39.
- Evidence—  
 Scientific facts and Christian —. Howard. Vol. 7.  
 On the rules of — as applicable to credibility of history. Forsyth. Vol. 8.  
 Nature and character of — for scientific purposes. McCann. Vol. 10.
- Evolution—  
 Bearing of palæontological facts on —. Nicholson. Vol. 9.  
 Breaks in continuity of mammalia fatal to —. Callard. Vol. 16.  
 Theory of — as taught by Hæckel. Hassell. Vol. 16.  
 Did the world evolve itself? Grimthorpe. Vol. 17.  
 — of the pearly nautilus. Pattison. Vol. 18.  
 — by natural selection. Hassell. Vol. 19.  
 On — and development. White. Vol. 19.  
 Remarks on —. Virchow. Vol. 19.  
 Relation of fossil botany to theories of —. James. Vol. 19.  
 Thoughts on the — of religions. Blakett. Vol. 19.  
 Factors of — in language. Murphy. Vol. 23.  
 Archæology and —. Walkey. Vol. 28.  
 — and design. Bompas. Vol. 28.  
 Creation or —. Kidd. Vol. 32.  
 — from a geological point of view. Whidborne. Vol. 33.  
 Law of — in Genesis i. Irving. Vol. 38.  
 —. Orchard. Vol. 40.

**Exodus.** The route of the —. Naville. Vol. 26.  
**Ezekiel's vision.** Carus-Wilson. Vol. 41.

**Faith.** Common errors in relation to science and faith. Macloskie. Vol. 32.  
**Fatalism.** Robbins. Vol. 7.

**Final cause—**

- as principle in cognition and nature. Morris. Vol. 9.
- Thompson. Vol. 13.
- Dabney. Vol. 20.

**Flint—**

- agricultural implements in America. Dawson. Vol. 11.
- implements of Brixham cavern. Whitley, N. Vol. 11.
- Prehistoric factory of — at Spiennes. Mello. Vol. 18.
- arrow heads of delicate structure. Murray. Vol. 22.
- bodies in chalk, Paramoudra. Charlesworth. Vol. 26.

**Folk-lore.** Stone —. Duns. Vol. 28.

**Force—**

- and energy. Brooke. Vol. 7.
- and its manifestations. McCann. Vol. 7.
- Indestructibility of —. Birks. Vol. 9.

**Genesis—**

Evolutionary law in Chapter i. Irving. Vol. 38.

**Geology—**

- General character of geological formations. Hopkins, E. Vol. 1.
- Lessons of — in relation to God. Brodie. Vol. 1.
- Relation of geological science to Bible. Kirk. Vol. 1.
- Changes and ages of continents. Hopkins. Vol. 2.
- Geological chronology. Reddie. Vol. 2.
- Geological proofs of Divine action. Pattison. Vol. 5.
- Introduction of genera and species in geological time. Dawson. Vol. 7.
- See Glacial epoch.
- See Palæolithic.
- Chronology of recent —. Pattison. Vol. 10.
- Structure of geological formations on evidence of design. Howard, D. Vol. 11.
- Elevation and depression of the British Isles. Hughes. Vol. 14.
- Breaks in continuity of mammalian life. Callard. Vol. 16.
- Volcanoes of West Indies. Spencer. Vol. 35.
- Age of last uprising in British Isles. Hull. Vol. 36.
- Geological exterminations. Warring. Vol. 37.
- Biological change in geological time. Lobley. Vol. 38.

**Glacial epoch—**

- Lapse of time since determined by, etc. Southall. Vol. 13.
- On the recency of the close of —. Mackintosh. Vol. 19.
- On the post — period. Upham. Vol. 25.
- The — period and the earth movement hypothesis. Geikie. Vol. 26.
- Another clause of —. Hull. Vol. 31.
- The influence of — on early history of mankind. Wright. Vol. 40.

**Glaciers in New Zealand.** Fox. Vol. 40.

**God—**

- Relation of geology's lessons to God. Brodie. Vol. 1.
- Analogies between His methods in nature and revelation. Henslow. Vol. 4.
- A demonstration of the existence of —. McCann. Vol. 5.

**God—continued—**

- Why man must believe in — ? Reddie. Vol. 5.
- Is it possible to know — ? Lias. Vol. 17.
- in nature. Hull. Vol. 24.
- On the being of —. Sinclair. Vol. 33.
- Modifications in the idea of —. Lias. Vol. 34.

**Gorilla.** Charlesworth. Vol. 20.**Guanches—**

- Characteristics of —. Dawson. Vol. 39.
- Skulls of —. Putnam. Vol. 39.

**Habit.** An enquiry into the formation of — in man. Schofield. Vol. 27.**Hades.** Descent into —. MacCulloch. Vol. 43.**Hamburg Congress.** Pinches. Vol. 35.**Hammurabi's code.** Pinches. Vol. 35.**Heredity and eugenics.** Caldecott. Vol. 42.**Herodotus.** On Egyptian geology. Walker. Vol. 31.**Hittite—**

- Empire of the Hittites. Wright, Rev. W. Vol. 21.
- cities. White, G. S. Vol. 33.

**Hornets.** Walker. Vol. 33.**Horns.** The — myth. Cooper. Vol. 12.**Human responsibility—**

- Analysis of — (2 parts). Irons. Vol. 4.

**Ice—**

- Causes of the ice age. Upham. Vol. 29.
- age's divisions. Upham. Vol. 33.
- Howorth. Vol. 38.

**Iceland—**

- Botany and entomology of —. Walker. Vol. 24.
- Stefansson. Vol. 34.
- Stefansson. Vol. 38.

**Inca language.** Christian, F. W. Vol. 40.**India—**

- Rainfall and climate of —. Fayrer. Vol. 16.
- Religion of the aboriginal tribes of —. Avery. Vol. 19.
- Philosophy and medical knowledge of ancient —. Gordon. Vol. 25
- Worship of snakes in —. Fayrer. Vol. 26.
- Irrigation works of —. Odling. Vol. 36.
- On Indian customs. Hendley. Vol. 40.

**Inspiration.** Objections to Divine inspiration of Scripture. Mitchell, W. Vol. 3.**Instinct and reason.** Collingwood. Vol. 24.**Islam—**

- Tisdall. Vol. 25.
- Future of —. Margoliouth. Vol. 35.

**Israel—**

- in Egypt. Moule. Vol. 5.
  - Synchronous chronology of kings of —. Fleay. Vol. 36.
- Ivory islands in Arctic Ocean. Whitley. Vol. 42.

**Jerusalem—**

- Water supply of —. Annual address. Wilson. Vol. 34.
- Water supply of —. Masterman. Vol. 35.



**Joseph—**

Life of — from external sources. Tomkins. Vol. 15.

Jurisprudence. Smith. Vol. 43.

Kant. The alleged scepticism of —. Courtney. Vol. 27.

**Keeling Islands—**

Keeling Atoll. Guppy. Vol. 23.

Dispersal of plants —. Guppy. Vol. 24.

Kingdom of God. The growth of —. Whiting, Rev. J. B. Vol. 37.

Krishna. Collings. Vol. 21.

**Language—**

On — of gesticulation and origin of speech. Young. Vol. 1.

Nature of human —. Baylee. Vol. 3.

Darwinism tested by recent researches in —. Bateman. Vol. 7.

The Etruscan —. Taylor. Vol. 10.

— and the theories of its origin. Brown. Vol. 15.

Sciences of — and ethnography. Leitner. Vol. 23.

Factors of evolution in —. Murphy. Vol. 23.

Comparison of the Asiatic languages. Conder. Vol. 27.

Lebanon. Prehistoric man in —. Dawson. Vol. 18.

**Life—**

On —, its origin. Wheatley. Vol. 3.

On —, its origin. Wheatley. Vol. 4.

Spontaneous generation on the problem of —. Kirk. Vol. 5.

Contrast between crystallization and —. Howard. Vol. 8.

On the nature of —. Nicholson. Vol. 14.

The living and the non-living. Beale. Vol. 16.

On certain theories of —. Gordon. Vol. 17.

Chronology of animal — on earth prior to man. Dawson. Vol. 20.

— as compared with physical forces. Slater. Vol. 32.

The nature of —. Beale. Vol. 32.

Light, luminaries and —. Irving. Vol. 42.

**Light—**

Perception of —. Stokes. Vol. 29.

— luminaries, and life, etc. Irving. Vol. 42.

Locusts and grasshoppers. Walker. Vol. 34.

Logic. Inductive —. Dabney. Vol. 19.

Logos. The meaning and history of the — of philosophy. Ciarke. Vol. 23.

Lucerne. Thickness of — glacier of the post pliocene period. Hull. Vol. 36.

Lycaonia. Ramsay, Sir W. M. Vol. 41.

Madagascar. Immigration of Arabs into —. Shaw. Vol. 33.

Malthus. Darwinism and —. White. Vol. 42.

**Man—**

Theories of man's past and present condition. Reddie. Vol. 1.

Man's place in creation. Macdonald. Vol. 4.

Bible aspects of man's tripartite nature. Graham. Vol. 6.

Brixham cavern's testimony to antiquity of —. Whitley, N. Vol. 9.

Evidence already obtained *re* antiquity of —. Hughes. Vol. 13.

Contemporaneity of — with extinct mammalia. Callard. Vol. 13.

Modern geogenies and antiquity of —. Birks. Vol. 13.

Man—*continued*—

- Science and ——. Porter. Vol. 13.  
 Early destinies of ——. Howard. Vol. 15.  
 Implements of stone age dividing — and animals. Thompson, J. P.  
 Vol. 15.  
 Pliocene — in America. Dawson. Vol. 15.  
 Origin of ——. Bardsley. Vol. 17.  
 Prehistoric — in Egypt. Dawson. Vol. 18.  
 Was primeval — a savage? Hassell. Vol. 19.  
 Antiquity of ——. Petrie, Capt. Vol. 20.  
 Chronology of animal life on earth prior to ——. Dawson. Vol. 20.  
 Origin of ——. Virchow. Vol. 24.
- Mānikka Vācagar. Pope. Vol. 30.
- Materialism—  
 The present day ——. Macdougall. Vol. 10.  
 ——. Beale. Vol. 16 (2 papers).  
 ——. Richmond. Vol. 16.
- Matter—  
 On the indestructibility of ——. Challis. Vol. 12.  
 Certain definitions of ——. Howard. Vol. 17.
- Matthew Arnold and modern culture. Lias. Vol. 12.
- Mediterranean. Physical conditions of — basin, etc. Hull. Vol. 31.
- Mencius. Turner, F. Storrs. Vol. 42.
- Mesopotamia. Star worshippers of ——. Zwemer. Vol. 31.
- Metaphysics—  
 The — of scripture. Challis. Vol. 11.  
 On physiological —. Porter, N. Vol. 14.
- Metallurgy. The dawn of —. Mello. Vol. 23.
- Meteorites. On falling stars and —. W. Mitchell. Vol. 1.
- Meteorology. — : rainfall. Bateman. Vol. 15.
- Mind—  
 On the organ of —. Fisher. Vol. 14.  
 Some relations between — and body. Schofield. Vol. 30.  
 The scope of —. Schofield. Vol. 32.  
 The marks of — in nature. Duns. Vol. 32.
- Minerals. The — and metals of the Old Testament. Jervis. Vol. 37.
- Miracles—  
 On —. Penny. Vol. 1.  
 On —. English. Vol. 1.  
 On —. Watson. Vol. 20.  
 —, Science and prayer. Lias. Vol. 29.  
 Scriptural idea of —. Girdlestone. Vol. 30.  
 Attitude of science towards —. Gunning Prize. Orchard. Vol. 42.
- Missions. Science in relation to Christian —. Baylis. Vol. 43.
- Mithraism. Tisdall. Vol. 43.
- Moab—  
 Moabite stone. Petrie, Capt. Vol. 6.  
 Recent investigations in —. Wilson. Vol. 33.
- Modernism. Lias. Vol. 40.
- Monism. Monier-Williams. Vol. 25.
- Monotheism—  
 Prehistoric — in relation to man as savage. Titcomb. Vol. 6.  
 On —. Rule. Vol. 12.  
 Archaic —. Brown. Vol. 13.
- Moral—  
 Origin of — sense. Kirk. Vol. 7.  
 Physical theory of — freedom. Murphy. Vol. 22.
- Morning star. Mackinlay. Vol. 38.

**Myths—**

- Serpent — in ancient Egypt. Cooper. Vol. 6.  
 The — of Ra. Cooper. Vol. 11.  
 The Horns —. Cooper. Vol. 12.  
 Coral Islands and savage —. Guppy. Vol. 23.

**Nativity.** Date of —. Mackinlay. Vol. 41.

**Nationality.** Hughes, Prof. T. M. Vol. 32.

**Natural Selection—**

- Bearing of palæontological facts on —. Nicholson. Vol. 9.  
 Evolution by —. Hassell. Vol. 19.  
 The theory of —. Duns. Vol. 22.

**Nature—**

- Methods in — and in revelation. Henslow. Vol. 4.  
 Final cause as principle in —. Morris. Vol. 9.  
 — limits : an argument for Theism. Pattison. Vol. 12.  
 The supernatural in —. Howard. Vol. 16.  
 Climate in relation to organic —. Gordon. Vol. 17.  
 The argument from design in —. James. Vol. 17.  
 The beauty of —. Grimthorpe. Vol. 21.  
 The one origin of the books of Revelation and of —. Stokes. Vol. 22.  
 Colours in —. Walker. Vol. 23.  
 God in —. Hull. Vol. 24.  
 Man's place in —. Petrie. Vol. 24.  
 On the apparent cruelty of —. Wood. Vol. 25.  
 Mechanical conception of —. Macloskie. Vol. 28.  
 Plan and purpose in —. Kidd. Vol. 31.  
 Marks of mind in —. Duns. Vol. 32.  
 Adaptation and selection in —, design. Kidd. Vol. 34.  
 Genesis of —. Whidborne. Vol. 36.

**Nautilus.** Evolution of the pearly —. Pattison. Vol. 18.

**Naville, Ernest.** —'s life. Roget. Vol. 43.

**Negro.** The origin of the —. Titcomb. Vol. 5.

**New Zealand—**

- The Maoris' place in history. Rutland. Vol. 33.  
 Fjords of —. Maclaren. Vol. 34.  
 Hot lakes of —. Boord. Vol. 36.

**Niagara—**

- Recession of — Falls. Upham. Vol. 19. Note.  
 Recession of — Falls. Upham. Vol. 27.

**Nicaragua.** Human footprints in —. Brinton. Vol. 22.

**Nineveh.** Assur and —. Pinches. Vol. 42.

**Norway.** — fjords. Hull. Vol. 34.

**Numerical System.** The — of the Old Testament. Thornton. Vol. 5

**Ocean—**

- How waters of — became salt. Hull. Vol. 27.  
 Sub-oceanic river valleys, British Isles. Hull. Vol. 30.  
 Sub-oceanic river valleys, West Europe. Hull. Vol. 31.  
 Sub-oceanic river valleys, West Africa. Hull. Vol. 32.  
 Sub-oceanic depression. Lobley. Vol. 33.

**Optimism.** Practical —. Smith, Saumerez. Vol. 21.

**Oriental discoveries—**

- On —. Urquhart. Vol. 37.  
 On —. Robinson. Vol. 38.

## Origin—

Of man. Bardsley. Vol. 17.

Of man. Virchow. Vol. 24.

Orissa. Hendley. Vol. 39.

## Pacific—

The ethnology of the ——. Whitmee. Vol. 14.

Traditions of Aborigines of islands of ——. Ocean. Dr. Eells. Vol. 19.

## Palestine—

Recent survey of West ——. Saunders. Vol. 17.

Meteorology of ——. Post. Vol. 20.

Botanical geography of ——. Post. Vol. 22.

Land tenure in ancient times in ——. Neil. Vol. 24.

On the Canaanites. Conder. Vol. 24.

Recent discoveries in ——. Masterman. Vol. 39.

## Palæolithic—

The —— age examined. Whitley, N. Vol. 8.

Facts and evolution. Nicholson. Vol. 9.

## Pantheism—

Principles of modern ——. Row. Vol. 8.

On ——. Monier-Williams. Vol. 25.

## Pentateuch—

On high numbers in ——. Gosse. Vol. 5.

Ethnic testimonies to ——. Titcomb. Vol. 6.

On Samaritan text of ——. Garret. Vol. 36.

Pessimism. James. Vol. 18.

Petra. Hull. Vol. 21.

Philology. On comparative ——. Thornton. Vol. 1.

## Philosophy—

The relation of reason to ——. Row. Vol. 3.

Ethical ——. English. Vol. 3.

Philosophical principles in Mr. Buckle's history. Row. Vol. 3.

The testimony of —— to Christianity as a moral and spiritual revelation.

Row. Vol. 5.

Natural theology and modern ——. Henslow. Vol. 7.

Influence of true and false ——. Howard. Vol. 12.

— and evolution. Orchard. Vol. 40.

The demand for a Christian ——. Whateley. Vol. 43.

Phyllotaxis. Henslow. Vol. 6.

## Plants—

Polynesians and their —— names. Guppy. Vol. 29.

— Distribution. Guppy. Vol. 39.

Pliocene. — man in America. Dawson. Vol. 15.

Polynesians. — and their plant names. Guppy. Vol. 29.

## Prayer—

Relation of science to ——. Kirk. Vol. 2.

Miracles, science and ——. Lias. Vol. 29.

Primeval man in Belgium. Whitley. Vol. 39.

Primitive man. Mello. Vol. 30.

Primeval history. Uses of. MacCausland. Vol. 3.

Procopius. —'s African monument. Rouse. Vol. 34.

Protection. Methods of —— of. Kid. Vol. 33.

Providence. Creation and ——. Havard. Vol. 12.

## Psychology—

On comparative ——. Morshead. Vol. 3.

On comparative ——. Morshead. Vol. 5.

Biblical ——. English. Vol. 6.

**Psychology—continued.**

- On comparative —. Morshead. Vol. 12.
- , Turner, F. Storrs. Vol. 37.
- , Smith, I. Gregory. Vol. 43.

- Qādiān. The Messiah of —. Griswold. Vol. 37.
- Queensland. Artesian water in —. Jack. Vol. 34.

**Ra. The myth of Ra. Cooper. Vol. 11.****Rainfall—**

- Meteorology —. Bateman. Vol. 15.
- and climate of India. Fayer. Vol. 15.

**Rajputana. Hendley, Col. T. H. Vol. 37.****Rank. Principles of — among animals. Parker. Vol. 27.****Reason—**

- Relation of — to philosophy, theology and revelation. Row. Vol. 3.
- Identity of — in science and religion. Mitchell, R. Vol. 8.
- Instinct and —. Collingwood. Vol. 24.

**Reconstruction. Thompson, S. P. Vol. 37.****Rectitude. The science of — as distinct from expedience. Clarke. Vol. 24.****Red Sea. Passage of — by Israelites. Tulloch. Vol. 28.****Religion—**

- Identity of reason in science and —. Mitchell, R. Vol. 8.
- Relation of thought to —. Cotterill. Vol. 12.
- Modern science of —. Blencowe. Vol. 15.
- Relation of science and —. Cotterill. Vol. 15.
- On comparative —. Note. Vol. 19.
- Some characteristics of primitive —. Collins. Vol. 19.
- Science and —. Petrie. Vol. 23.
- Modern science and natural —. Ashwin. Vol. 23.
- Religions of the East—
- Some thoughts on the evolution of —. Blackett. Vol. 19.
- List of Society's publications on —. Vol. 30.

**Responsibility—**

- On human — (2 parts). Irons. Vol. 4.
- On human —. Blencowe. Vol. 19.
- On human —. Grimthorpe. Vol. 25.

**Resurrection. The — of our Lord and Saviour Jesus Christ. Girdlestone. Vol. 37.****Revelation—**

- Relation of reason to —. Row. Vol. 3.
- Analogous methods of deity in nature and —. Henslow. Vol. 4.
- Absence of opposition between science and —. Stokes. Vol. 17.
- Science not opposed to —. Porter. Vol. 18.
- One origin of the books of — and of nature. Stokes. Vol. 22.

**Röntgen rays. Stokes. Vol. 30.****Samaritan—**

- text of Pentateuch. Garrett. Vol. 36.
- Passover of the year 1861. Hammond. Vol. 36.

**Samoa. A — tradition of creation. Powell. Vol. 20.****Scandinavians. On their ethical condition. Gosse. Vol. 9.****Scepticism—**

- The logic of —. Thornton. Vol. 2.

Scepticism—*continued*—

- The credulity of —. Thornton. Vol. 4.
- Anarchy of modern unbelief. Boulton. Vol. 8.
- The varying tactics of —. Thornton. Vol. 9.
- Modern philosophic — examined. Main. Vol. 10.

## Science—

- Mutual helpfulness of theology and physical —. Gladstone. Vol. 1.
- Difference in scope between scripture and —. Burnet. Vol. 1.
- A sketch of the relations between scripture and —. Warington. Vol. 1.
- Relation of — to prayer. Kirk. Vol. 2.
- Simplification of first principles in physical —. Brooke. Vol. 3.
- Immediate derivation of — from great first cause. Laming. Vol. 3.
- Provinces of the observer and reasoner in — investigation. Gabbett. Vol. 4.
- Identity of reason in — and religion. Mitchell, R. Vol. 8.
- Biblical interpretation and —. McCaul. Vol. 9.
- Place of — in education. Nicholson. Vol. 10.
- Uncertainties of modern physical —. Birks. Vol. 11.
- Relation of scientific thought to religion. Cotterill. Vol. 12.
- and man. Porter, N. Vol. 13.
- Bearings of study of — upon our religious ideas. Stokes. Vol. 14.
- Modern — of religion. Blencowe. Vol. 15.
- Relation of — and religion. Cotterill. Vol. 15.
- Absence of opposition between — and revelation. Stokes. Vol. 17.
- not opposed to revelation. Porter. Vol. 18.
- Note on — and religion. Petrie. Vol. 23.
- Modern — and natural religion. Ashwin. Vol. 23.

Self. On the reality of the —. Courtney. Vol. 25.

## Serpents—

- myths in ancient Egypt. Cooper. Vol. 6.
- Sun and — worship. Phene. Vol. 8.
- On — worship and the venomous snakes of India. Fayrer. Vol. 26.

Shishak. The list of —. Maspero. Vol. 27.

Sidon. Discoveries at —. Vol. 21.

## Sinai—

- The topography of the — peninsula. Holland. Vol. 14.
- Where is Mount —? Hull. Vol. 31.
- Researches in —. Prof. Petrie. Vol. 39.

Socialism. On Christianity and —. Cunningham. Vol. 41.

Sound. — and colour. Macdonald. Vol. 32.

South Africa. Experiences in the war. Frazer. Vol. 35.

Space. Time and —. Arthur. Vol. 22.

## Species—

- Introduction of — in geological time. Dawson. Vol. 7.
- and their origin. Gerard. Vol. 42.

## Spencer, Herbert—

- On — philosophy. Ground. Vol. 16.
- On — theory of the will. Ground. Vol. 16.

Spiennes. Factory of flints at —. Mello. Vol. 18.

Sphinx. Note on excavations round —. Maspero. Vol. 20.

Spontaneous generation. — or problem of life. Kirk. Vol. 5.

## Stars—

- worshippers of Mesopotamia. Zwemer. Vol. 31.
- Origin of new —. Ball. Vol. 33.
- Falling —. Meteorites.
- Sidereal universe. Gill. Vol. 43.

## Stone age—

Date of the polished ——. Southall. Vol. 13.

Implements of — man, and animals. Thompson, J. P. Vol. 15.

Structure. — and structureless. Beale. Vol. 20.

Sun. On — worship. Phene. Vol. 8.

Supernatural. On the credibility of the ——. O'Neill. Vol. 16.

## Syria—

Meteorology of ——. Post. Vol. 20.

Botanical geography of ——. Post. Vol. 22.

Tanganyika. Marine fauna of ——. Hudleston. Vol. 36.

Tel el Amarná. On the cuneiform inscriptions of ——. Sayce. Vol. 24.

Thalassography. On North Sea. Jervis. Vol. 32.

## Theism—

Mill's essay on ——. Irons. Vol. 9.

Unconscious intelligence as opposed to ——. Morris. Vol. 11.

Nature's limits, an argument for ——. Pattison. Vol. 12.

## Theology—

Mutual helpfulness of — and natural science. Gladstone. Vol. 1.

— as a science. De la Mare. Vol. 3.

Relation of reason to ——. Row. Vol. 3.

Natural — and modern philosophy. Henslow. Vol. 7.

Comparative ——. MacCulloch. Vol. 43.

Theosophy. Coles. Vol. 43.

## Thothmes—

Names on the list of ——. Maspero. Vol. 20.

Names on the list of ——. Maspero. Vol. 22.

## Thought—

The unknown in modern ——. Lias. Vol. 17.

The influence of physiological discoveries on ——. Frost. Vol. 37.

Time. — and space. Arthur. Vol. 22.

Tithegiving. — among ancient Pagan nations and note by MacMüller on same. Lansdell. Vol. 31.

Turkey. Shia Turks. White, G. E. Vol. 40.

Ultramontaniam. Lias. Vol. 40.

Unity. The — of truth. Annual address. Temple. Vol. 32.

## Universe—

Examination of the unseen ——. Irons. Vol. 11.

Action of the will in formation of ——. O'Neill. Vol. 15.

Modern conceptions of ——. Searle. Vol. 42.

Scheme of ——. Girdlestone. Vol. 43.

Sidereal ——. Gill. Vol. 43.

Unseen world. On science and ——. Schofield. Vol. 41.

Utilitarianism. Reddie. Vol. 2.

## Victoria, Queen—

Communications from ——. Her Jubilee. Vol. 29.

Death of ——. Vol. 33.

## Volcanoes—

of West Indies. Spencer. Vol. 35.

Volcanic action and West Indian eruptions of 1902. Lobley. Vol. 35.

Volition. From reflex action to ——. Hill. Vol. 26.

- Wahabîs. Origin, history, etc., of —. Zwemer. Vol. 33.
- Will—  
 The action of — in the formation of universe. O'Neill. Vol. 15.  
 On Herbert Spencer's theory of the —. Ground. Vol. 16.
- Zodiac. The zodiacal arrangement of stars. Grimaldi. Vol. 38.
- Zoroaster—  
 The system of — and archaic Monotheism. Brown. Vol. 13.  
 On — Philosophers. Monier-Williams. Vol. 25.

---

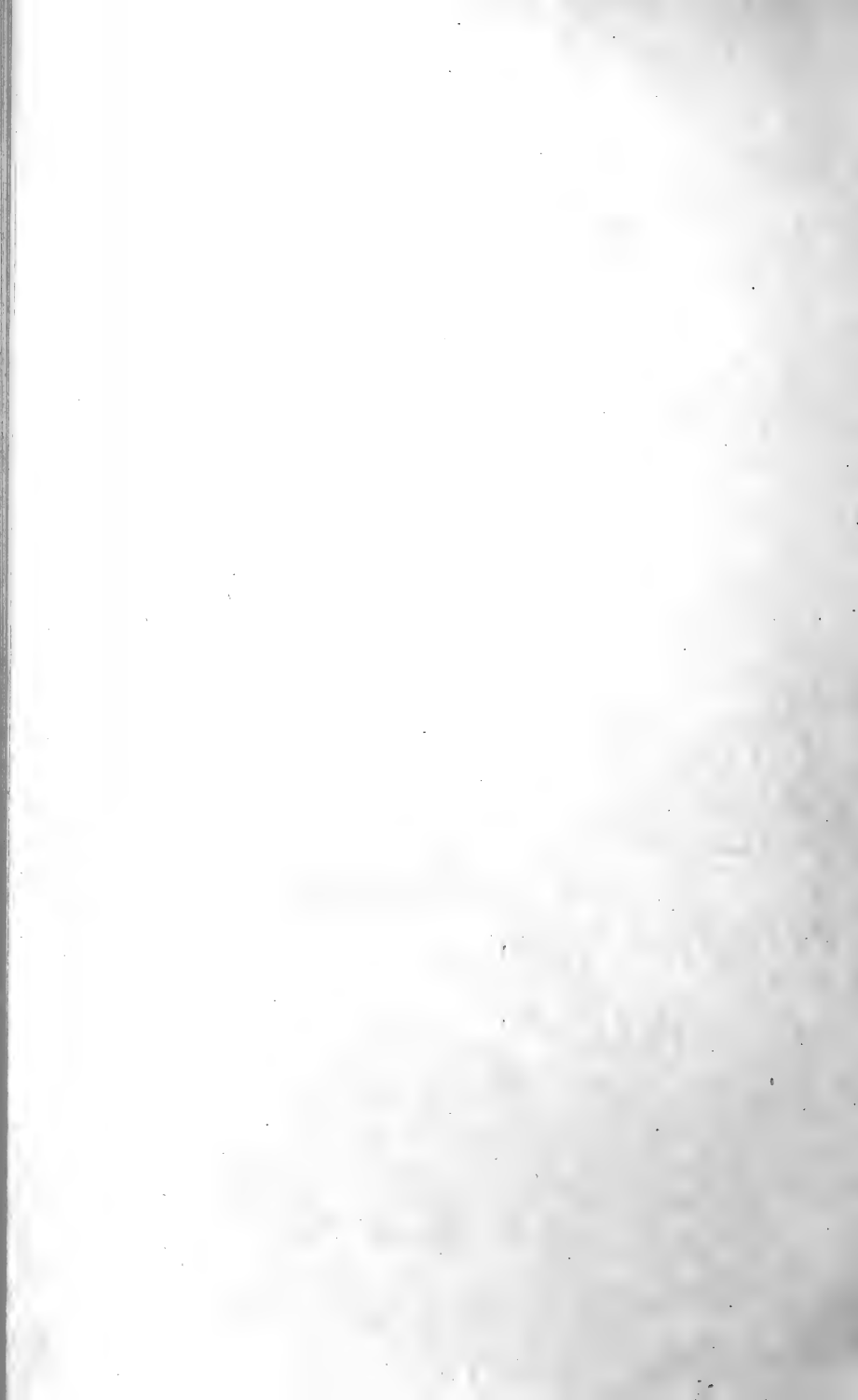
## VOL. XLIV.

- Annual Address. Modern Unrest and the Bible. By Sir Andrew Wingate, K.C.I.E.
- The Genealogies of Our Lord in St. Matthew and St. Luke. By Mrs. Agnes Smith Lewis, LL.D., St. Andrews D.D., Heidelberg.
- Natural Law and Miracle. By Dr. Ludwig von Gerdtell.
- The Greek Papyri. By the Rev. Professor G. Milligan, D.D.
- The Conditions of Habitability of a Planet, with special reference to the Planet Mars. By E. Walter Maunder, Esq., F.R.A.S.
- The Historicity of the Mosaic Tabernacle. By the Rev. Professor James Orr, M.A., D.D.
- The Real Personality or Transcendental Ego. By Sydney T. Klein, Esq., M.B.I., F.L.S., F.R.A.S.
- Difficulties of Belief. By the Right Rev. the Bishop of Down, D.D.
- Some Lucan Problems. By Lieut.-Colonel G. Mackinlay.
- Archæology and Modern Biblical Scholarship. By the Rev. John Tuckwell, M.R.A.S.
- Adaptations in Plants and Animals to their Conditions of Life are the result of the Directivity of Life. By the Rev. Professor G. Henslow, M.A., F.L.S.
- International Arbitration in the Greek World. By Marcus N. Tod, Esq., M.A.
- The Influence of Babylonian Conceptions on Jewish Thought. By the Ven. Archdeacon Beresford Potter, M.A.
- Index of previous volumes.



LONDON

HARRISON AND SONS, PRINTERS IN ORDINARY TO HIS MAJESTY,  
ST. MARTIN'S LANE.







MCZ ERNST MAYR LIBRARY



3 2044 128 418 001





