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JOURNAL OF THE TRANSACTIONS
OF
THE VICTORIA INSTITUTE

VOL. LXVI.

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

VOL. LXVI.



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1934

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PREFACE.

THIS is the sixty-sixth *Journal of Transactions* to be published by the Victoria Institute. In view of the age of the Society (now verging on seventy years), it may seem superfluous to refer again to the question of the real and abiding value of such a volume. The very continuance of the Victoria Institute in the midst of the tumultuous tides of thought that have characterized this period is surely proof positive that its work is worthy of adequate support. Otherwise it would have long since perished. Nevertheless, it may not be out of place to define again the purpose which such a publication is designed to serve, and all the more so because this is an age when everything is challenged, and required to vindicate its utility.

The aim of the proceedings reported in the following pages is that which governs all such series of discussions and investigations. That is the increase of knowledge by research and criticism. In modern days, such advances are usually made by degrees, in such dimensions as easily admit of their record being presented in papers like those contained in this volume. Vast strides are very uncommon. Progress is made by inches, and that rate can be registered quickly and conveniently in the *Transactions* of a learned body.

These claims to extend the frontiers of the kingdom of knowledge must be sifted and tested before their real value is established. As Mrs. Walter Maunder puts it in pleasant, playful fashion in her paper on "Early Hindu Astronomy," "It is always a joyous thing to find faults in the work of one's predecessors; thereby

progress is made." The meetings of learned societies provide an opportunity for such constructive criticism.

These aims and methods the Victoria Institute shares in common with all learned bodies. Its distinctive feature lies in the fact that its standpoint and spirit are evangelical and conservative. These will be found to be defined and defended in the Annual Address by the distinguished President of the Institute, Sir Ambrose Fleming, which concludes this volume. It describes the ideal towards which the Institute ever presses in the conviction that its labours are not vain in the God of Truth.

H. S. CURR,
Acting Editor of Transactions.

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VICTORIA INSTITUTE.

REPORT OF THE COUNCIL FOR THE YEAR 1933.

TO BE READ AT THE

ANNUAL GENERAL MEETING, JUNE 11TH, 1934.

1. *Progress of the Institute.*

Presenting the 66th Annual Report the Council record, with thankfulness, the evidence of Divine favour in regular continuance of the work of the Victoria Institute despite the multiplying hindrances and handicaps of recent years. Of the twelve papers provided, though not all could be expected to be of equal value, the Council feel assured that in the composite message of the year the high aims of the Institute have been fulfilled. They further record their sincere thanks to the authors for their valued contributions, and to the audiences whose sustained interest and hearty appreciation have been so encouraging throughout the session.

2. *Meetings.*

Twelve ordinary meetings were held during the session 1932-33. The papers published were:—

“On Beauty in Nature as a supplement to the Argument from Design,” by Sir AMBROSE FLEMING, D.Sc., F.R.S. (President).

Dr. James W. Thirtle, M.R.A.S., in the Chair.

“The Age of the Earth, as deduced from the Salinity of the Ocean,” by DUDLEY J. WHITNEY, Esq., B.S.

Alfred W. Oke, Esq., LL.M., F.G.S., F.Z.S., in the Chair.

“Joseph in Egypt in the Light of the Monuments,” by Dr. A. S. YAHUDA.

Dr. James W. Thirtle, M.R.A.S., in the Chair.

“Jerusalem according to Nehemiah,” by Mrs. C. AGNES BOYD.

Lieut.-Col. F. A. Molony, O.B.E., in the Chair.

“Some Aspects of Jewish Mysticism,” by the Rev. PAUL P. LEVERTOFF, D.D.

Dr. James W. Thirtle, M.R.A.S., in the Chair.

“Psychology and the Problem of Inadequacy,” by Dr. BURNETT RAE (being the Dr. A. T. Schofield Memorial Paper).

Sir Robert Armstrong-Jones, C.B.E., M.D., D.Sc., in the Chair.

“The Synoptic Gospels: their relation to one another,” by the Rev. D. M. McINTYRE, D.D.

Alfred W. Oke, Esq., LL.M., F.G.S., F.Z.S., in the Chair.

“Sunlight and Life,” by Dr. C. W. SALEEBY, F.R.S., Edin.

W. McAdam Eccles, Esq., M.S., F.R.C.S., in the Chair.

“The Supposed Evolutionary Origin of the Moral Imperative,” by the Rev. H. C. MORTON, B.A., Ph.D.

Douglas Dewar, Esq., B.A., F.Z.S., in the Chair.

“Recent Developments in the Textual Criticism of the Bible,” (including the recently discovered Papyri) by Sir FREDERIC G. KENYON, K.C.B., D.Litt., LL.D.

The Rev. Robert Kilgour, D.D., in the Chair.

“The Doctrine of Organic Evolution in the Light of Modern Research,” by Professor A. FLEISCHMANN.

Douglas Dewar, Esq., B.A., F.Z.S., in the Chair.

Annual Address: “Free Will *versus* Determinism,” by Sir AMBROSE FLEMING, D.Sc., F.R.S. (President).

Dr. James W. Thirtle, M.R.A.S., in the Chair.

3. Council and Officers.

The following is a list of the Council and Officers for the year 1933:—

President.

Sir Ambrose Fleming, M.A., D.Sc., F.R.S.

Vice-Presidents.

Professor T. G. Pinches, LL.D., M.R.A.S.

Right Rev. Bishop J. E. C. Welldon, M.A., D.D.

J. W. Thirtle, Esq., M.A., LL.D., M.R.A.S., *Chairman of Council.*

Trustees.

Alfred William Oke, Esq., B.A., LL.M., F.G.S.

Lieut.-Colonel Hope Biddulph, D.S.O., late R.F.A.

William C. Edwards, Esq.

Council.

(In Order of Original Election.)

Alfred William Oke, Esq., B.A., LL.M.,

F.G.S.

Sir Robert W. Dibdin, F.R.G.S.

Lieut.-Col. F. A. Molony, O.B.E., late R.E.

Lieut.-Col. Hope Biddulph, D.S.O., late

R.F.A.

Avery H. Forbes, Esq., M.A.

Prof. Arthur Rendle Short, M.D., B.S.,

B.Sc., F.R.C.S.

The Rev. Harold C. Morton, B.A., Ph.D.

William C. Edwards, Esq.

Robert Duncan, Esq., M.B.E., I.S.O.

Louis E. Wood, Esq., M.B., D.P.H.

Lieut.-Col. T. C. Skinner, late R.E.,

F.R.Met.Soc.

Sir Charles Marston, J.P., F.S.A.

Lieut.-Col. Arthur Kenney-Herbert.

W. N. Delevingne, Esq.

Rev. Principal H. S. Curr, B.D., B.Litt.

Honorary Treasurer.

R. Duncan, Esq., M.B.E., I.S.O.

Honorary Editor of the Journal.

Dr. James W. Thirtle, M.R.A.S.

Honorary Secretary, Papers Committee.

Lieut.-Col. Hope Biddulph, D.S.O., late R.F.A.

Honorary Secretary.

Lieut.-Col. T. C. Skinner, late R.E., F.R.Met.Soc.

Auditor.

E. Luff-Smith, Esq. (Incorporated Accountant).

Secretary.

Mr. A. E. Montague.

4. Election of Officers.

In accordance with the Rules the following members of Council retire by rotation: Alfred W. Oke, Esq., LL.M., F.G.S., F.Z.S., W. N. Delevingne, Esq., the Rev. Principal H. S. Curr, B.D., B.Litt., and Lieut.-Col. Arthur Kenney-Herbert, the first three of whom offer themselves for re-election.

5. Obituary.

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

W. P. Annear, Esq., Rev. J. Collingwood Bruce, M.A., Mrs. C. Agnes Boyd, the Rev. Principal S. Chadwick, Sir J. H. Cory, Bart., Sir Robert W. Dibdin (*Member of Council*), W. H. Dempster, Esq., Edgar E. Harrison, Esq., the Rev. Professor M. G. Kyle, D.D., Miss G. E. Lea, the Rev. Walter Lock, D.D., the Rev. Professor A. H. Sayce, LL.D., Col. W. Sidebottom, J.P., J. V. Stevenson, Esq., C.B.E., Leonard Sutton, Esq., F.L.S., Professor J. E. Talmage, D.Sc., F.G.S., Lieut.-Commander Victor L. Trumper, the Rev. Professor J. H. Webster, D.D., the Rt. Rev. Bishop Gilbert White, D.D.

6. New Members and Associates.

The following are the names of new Members and Associates elected up to the end of 1933:—

MEMBERS:—Sir Robert Armstrong-Jones, C.B.E., M.D., D.Sc., the Rev. Principal F. C. Haysmore, the Rev. A. E. Hughes, M.A.

LIFE ASSOCIATES:—R. E. D. Clark, Esq., M.A., Ph.D., Wing-Commander P. J. Wiseman, R.A.F.

ASSOCIATES:—Dr. E. S. Allen, Rev. H. E. Anderson, Very Rev. Dean W. L. Armitage, D.D., F. D. Bacon, Esq., W. H. Boulton, Esq., Dr. Katharine C. Bushnell, Miss Eunice B. Coad, T. Martin Cuthbert, Esq., M.R.C.S., L.R.C.P., Captain Percy N. Corry, Mrs. Ada B. Frome, Miss M. E. Galloway, Rev. G. Watkins Grubb, B.A., Miss Ethel F. Hart, Rev. Robert D. Kilgour, Rev. Milton B. Lambdin, Rev. E. C. Linton, M.A., Rev. G. M. Maudsley, M.A., W. G. Marley, Esq., M.Sc., Rev. H. J. Murphy, M.A., Walter B. Pender, Esq., Edwin Sibley, Esq., Sir Andrew T. Taylor, J.P., F.S.A., R.C.A., Edwin J. Tharp, Esq., D.C., Rev. George Tulloch, Zion Research Library, U.S.A.

STUDENT ASSOCIATES:—Albert Hooper, Esq., B.Sc., R. P. Johnston, Esq., H. G. Lambert, Esq.

7. *Number of Members and Associates.*

Life Members	...	...	...	14
Annual Members	...	...	...	97
Life Associates	...	...	...	42
Annual Associates	...	...	...	264
Missionary Associates	...	...	...	4
Library Associates	...	...	...	31
Student Associates	...	...	...	7
				<hr/>
				459
				<hr/>

8. *Donations.*

Anonymous, £1 1s. 0d.; The Rev. Alfred Aldridge, B.A., £20; Col. A. W. C. Bell, 5s.; The Rev. Preb. H. W. Hinde, M.A., £1 1s. 0d.; D. Ramsay Smith, Esq., M.I.M.E., 10s. 6d.; Miss C. Tindall, £1 1s. 0d.

9. *Finance.*

To sustain the activities of the Institute on accustomed lines involves an annual expenditure of some £600. Unfortunately the income now deriving from annual subscriptions and sales of publications is insufficient to cover this amount, and each succeeding year a deficit of about £100 has to be recorded. Donations, generously given, have helped, in their measure, to reduce the deficiency, the remainder having been met hitherto out of the capital realized in 1932 by the sale of Consols. Of this reserve, however, only about £100 now remain, and though this will probably suffice to balance the current year's account, the outlook for the future is disquieting. The Council are satisfied that no further economies than those already instituted can be practised without crippling the work of the Institute and seriously impairing its usefulness, and they are loth also in difficult times like the present to make further appeals for special donations. Two methods remain, however, by which, jointly or severally, the entire difficulty could still be removed. They are, *first*, a concerted effort to increase the roll by say, 24 Members and 48 Associates, and *second*, a much freer use of the plan for recovery of income tax on subscriptions of Members and Associates adumbrated at the Annual Meeting last year. The first needs neither explanation nor emphasis, and all can participate in the endeavour. The second, put forward with some diffidence a year ago, is already a well-proved success, as, with the hearty approval of the Inland Revenue Authorities and the immediate support of only 54 Members and Associates the funds are already benefiting by some £24 a year from now forward. There seems no obvious reason why this adventitious income

should not be doubled or trebled, and with no more inconvenience to subscribers than the trifling matter of signing the initial agreement, and one form each year when sending their normal subscriptions. The Council therefore again invite Members and Associates whose incomes are subject to taxation very kindly to consider whether it would not be possible for any more to become supporters of the plan, to the great benefit of the funds and relief of much anxiety.

10. *Conclusion.*

Finally, the Council invite all who value the work of the Victoria Institute in any wise, by prayer-support, to strengthen their hands in their endeavour to increase both the efficiency of the message and the effective range of its appeal. Members and Associates are also again asked to consider what may be possible, individually, to spread the literature and enlarge our circle of influence; they will surely be few who can lend no help in this way. To the many who have helped manfully hitherto the Council owe, and here record, their warmest praise.

J. W. THIRTLE,
Chairman of Council.

"SCHOFIELD" MEMORIAL FUND (<i>per contra</i>)				220	0	0
Balance at 1st January, 1933....	....	6	11	4		
Add Dividends received	....	8	17	6		
		<hr/>		15	8	10
<i>Deduct :—</i>						
Prize awarded	....	10	0	0		
		<hr/>		5	8	10
		<hr/>		£1,441	8	3
		<hr/>				

INCOME AND EXPENDITURE ACCOUNT :—						
Balance at 1st January, 1933 ....	....	95	7	2		
Add Excess of Expenditure over						
Income for the year 1933	....	103	7	3		
		<hr/>		198	14	5
<i>Deduct :—</i>						
Donations	....	23	18	6		
"Langhorne Orchard"						
Fund contribution						
to Expenses....	....	5	5	0		
		<hr/>		29	3	6
		<hr/>		169	10	11
		<hr/>		£1,441	8	3
		<hr/>				

I report to the Members of the Victoria Institute that I have audited the foregoing Balance Sheet, dated 31st December, 1933, and have obtained all the information and explanations I have required. I have verified the Cash Balances and Investments. No valuation of the Library, Furniture or Tracts in hand has been taken. In my opinion the Balance Sheet is properly drawn up so as to exhibit a true and correct view of the state of the affairs of the Institute according to the best of my information and the explanations given to me, and as shown by the books of the Institute.

21, Old Queen Street, Westminster,
London, S.W.1.
18th May, 1934.

E. LUFF-SMITH,
Incorporated Accountant.

THE ANNUAL BUSINESS MEETING

OF THE

VICTORIA INSTITUTE

WAS HELD IN COMMITTEE ROOM B, THE CENTRAL HALL,
WESTMINSTER, S.W.1, ON MONDAY, JUNE 11TH, 1934,
AT 4.30 P.M.

THE PRESIDENT, SIR AMBROSE FLEMING, D.Sc., F.R.S.,
IN THE CHAIR.

The Minutes of the Annual Meeting, June 12th, 1933, were read, confirmed, and signed.

The Annual Report and Statement of Accounts were introduced by the HON. SECRETARY in a brief statement touching the number of papers read, viz., 12, and the financial difficulties under which the Society laboured. Up to the present they were not actually in debt, the annually recurring excess of expenditure over income, amounting to £100, having been covered so far by proceeds of sale of their one investment ; but after the current year the excess could only be met by special donations for which the Council were loth to ask, or by increased membership of, say, 24 Members and 48 Associates, or by large increase in the numbers of Members and Associates willing to further the Income Tax recovery scheme. At present, with only 54 Members and Associates out of a total of 460 assisting in the scheme, the Society was already benefiting by £24 a year, and there was no apparent reason why this adventitious income should not be doubled or trebled. The meeting was then thrown open for discussion. There being no comments,

The First Resolution—

“ That the Report and Statement of Accounts for the year 1933, presented by the Council, be received and adopted ; and that the thanks of the meeting be given to the Council, Officers, and Auditor for their efficient conduct of the business of the Victoria Institute during the year,”

being moved by Mr. DOUGLAS DEWAR, and seconded by Mrs. MAUNDER, was put to the meeting and carried unanimously.

The Second Resolution—

“ That in accordance with Clause 3 of the Constitution, the President, Sir Ambrose Fleming, M.A., D.Sc., F.R.S., the Vice-Presidents, Right Rev. Bishop J. E. C. Welldon, M.A., D.D., and J. W. Thirtle, Esq., M.A., LL.D., M.R.A.S., Chairman of Council, the Hon. Treasurer, R. Duncan, Esq., M.B.E., I.S.O., the Hon. Secretary, Lieut.-Colonel T. C. Skinner, late R.E., F.R.Met.Soc., be re-elected to their office, and that W. N. Delevingne, Esq., be elected to the office of Hon. Papers Secretary *vice* Lieut.-Colonel Hope Biddulph, D.S.O., R.A., retiring on the ground of ill health,”

was then moved by the Rev. D. E. HART-DAVIES, and seconded by Mr. AVARY H. FORBES, and, on being put to the meeting, was carried unanimously.

The Rev. F. W. PITT then moved the *Third Resolution*, seconded by Colonel A. KENNEY-HERBERT—

“ That Alfred W. Oke, J.L.M., F.G.S., F.Z.S., W. N. Delevingne, Esq., and the Rev. Principal H. S. Curr, B.D., B.Litt., retiring members of Council, be re-elected, and that Douglas Dewar, Esq., B.A., F.Z.S., be elected on the Council; also that E. Luff-Smith, Esq. (Incorporated Accountant) be re-elected Auditor at a fee of three guineas,”

which was put to the meeting and carried unanimously.

On conclusion of the business, a very hearty vote of thanks to Sir Ambrose Fleming for presiding, was moved by Mr. Oke and seconded by Mr. Duncan, and carried with acclamation.

773RD ORDINARY GENERAL MEETING

HELD IN COMMITTEE ROOM B, THE CENTRAL HALL,
WESTMINSTER, S.W.1, ON MONDAY, JANUARY 15TH, 1934,
AT 4.30 P.M.

DOUGLAS DEWAR, Esq., B.A., F.Z.S., IN THE CHAIR.

The Minutes of the Meeting of June 12th, 1933, were read, confirmed, and signed, and the HON. SECRETARY announced the following elections since the last meeting:—As a Member: Sir Robert Armstrong-Jones, C.B.E., M.D., D.Sc., and Wing-Commander P. J. Wiseman, R.A.F., as Life Associates. The following were elected as Associates: The Very Rev. Dean W. L. Armitage, D.D., W. H. Boulton, Esq., Dr. Catharine C. Bushnell, F. D. Coggan, Esq., B.A., T. Martin Cuthbert, Esq., M.R.C.S., L.R.C.P., Mrs. Ada B. Frome, Miss M. E. Galloway, Miss Ethel F. Hart, the Rev. M. B. Lambdin, W. G. Marley, Esq., M.Sc., Rev. G. M. Maudsley, M.A., Rev. H. J. Murphy, M.A., Rev. George Tulloch, Zion Research Library, U.S.A.

The CHAIRMAN then called on Captain Bernard Acworth, D.S.O., R.N., to read his paper on "Bird Flight and its Bearing on Evolution."

BIRD FLIGHT AND ITS BEARING ON THE THEORY OF EVOLUTION.

By Captain B. ACWORTH, D.S.O., R.N.

FROM time immemorial birds have been regarded as emblems of the freedom for which man has ever yearned. The alleged ability of birds to come and go over land, mountains, deserts and seas at will, is contrasted with the former disabilities of man who, for lack of wings, was subject to restrictions in his movements about the world. Hence the world-wide enthusiasm for artificial flying which is believed, erroneously, to have conferred on man, at long last, the freedom of the birds.

To the uninitiated observer the power of flight must appear, almost inevitably, to confer freedom upon those equipped to employ it, but I hope, in the short time at my disposal, to be able to demonstrate that creatures, and airmen, dependent upon

flight for their movement, are in reality in a state of bondage which no earth-bound creature experiences.

Before considering the disabilities of birds, it is necessary to master what I have termed, in "This Bondage," the two Laws of Currents which regulate *absolutely* the motion of any body, natural or artificial, through the moving atmosphere.

THE FIRST LAW OF CURRENTS.

No bird or machine can experience any pressure from the movement of the medium in which it is supported and operating.

This simple statement of fact may be amplified and expressed thus :

A bird, like any other air-borne body in flight, feels only a dead calm so far as wind-pressure is concerned. It feels neither the force nor the direction of the wind except possibly a momentary sensation, due to change of *inertia*, if, in the immediate region of the minute area it occupies, a sharp variation in speed or direction of the wind occurs. In the open and unobstructed atmosphere it is doubtful if such variations obtain.

From this it follows that a bird in flight is the only creature (with the exception of a submerged fish) which never *feels* a breath of wind.

This fundamental fact can be simply conceived by thinking of a fly flying in the enclosed calm of the saloon of an ocean-liner travelling over the sea at a speed of 20 knots, the air enclosed in the liner's saloon being to the fly what the wind is to birds and aircraft. The fly experiences a draught from right ahead equal to its flight-speed through the saloon, regardless of the fly's direction of flight and of the speed and course of the liner itself. Again, though the fly rises and falls with the roll or pitch of the ship it feels no pressure from the vertical movement of the enclosed air in which it is flying. As with the fly, so with ourselves in a vehicle which is itself moving and enclosed. In short, the dynamics of movement in a single all-embracing medium are totally unaffected whether the all-embracing medium is stationary or in motion.*

*The phenomenon of movement within a movement is carefully examined in the analogy of an "Aerial Dome of Relativity" in pages 61-70 of "This Bondage."

Thus a bird flying in a strong adverse wind, even of gale force, feels nothing of the pressure of this wind, neither does it feel the pressure of a gale blowing in the same direction as the bird's direction of flight, nor yet of a wind at an angle to its own direction of progression. To a bird in flight there is no such thing as "wind," the bird being, in fact, in a dead calm so far as pressure is concerned. Air-borne bodies, whether giant air-ships, aeroplanes, albatrosses, tiny birds, insects, or a puff of smoke, become integral parts of the medium in which they are supported and operating, in precisely the same way as a submerged submarine in a current, a fish in a river, or an insect flying in an ocean-liner is at one with the movement of the water in which it is submerged, or with the enclosed air of the steamer's saloon in which the insect flies. The belief, common if not universal among biologists, that wind has a relation to the outspread wings of a bird analogous to the action of wind on the sails of a ship or a kite, or of steam on a turbine, is false. From this it follows that the biological conception of the evolution of a wing structure re-adapted to an environment which has changed from a watery or a reptilian environment in the past, to a more recent wind-swept one, is untenable.

The wings of birds are *oars*, not sails, with all that the distinction involves. The expressions "a following wind," "a head wind," or "a side wind," constantly employed in scientific treatises on birds, have no true meaning though they convey a false one. These so-called winds are in reality *currents*, and their movements *relative to air-borne birds* are non-existent.

But although the bird *feels* no wind pressure, the effect of these currents is overwhelming, as an example will show. Because birds assume the full speed and direction of the air in which they are borne, let us consider a swallow whose own proper flight speed through the air is 50 miles per hour; let us also assume three conditions of the atmosphere in which it is flying:

- (a) A calm, that is to say, still air.
- (b) A favourable current of 40 m.p.h.
- (c) An adverse current of 40 m.p.h.

For the sake of simplicity assume the bird to fly for 24 hours on a course which renders the current, if flowing, to be directly favourable or adverse. With these assumptions, which can be varied infinitely to meet all cases of flight or migration, we arrive at some remarkable discrepancies as to the ground covered

in each case, *though the distance flown through the moving air, and the energy expended by the bird, are the same in all cases.*

In case (a) the bird covers $(50 + 0) \times 24 = 1,200$ miles over land or sea.

In case (b) the bird covers $(50 + 40) \times 24 = 2,160$ miles over land or sea.

In case (c) the bird covers $(50 - 40) \times 24 = 240$ miles over land or sea.

Thus in one day the direction of what we on land or sea call the wind, but what to air-borne bodies is a *moving calm*, affects the bird's translation by 1,920 miles.

From the foregoing facts it is plain that birds are absolutely parasitical to the air in which they fly, which implies that under circumstances which regularly arise with the changing seasons they will be compelled to leave their homes without any intention on their part. Herein lies the secret of "migration" which will be further examined in due course. It should, however, be pointed out at once that the compulsion under which the bird lies to leave home constitutes a damaging criticism of the evolutionary theory that birds leave their homes as a result of a *biological* urge handed down from prehistoric times. As is always the case, conclusions reached through sound reasoning will bear the test of experiment. Mr. A. G. Butler, the author of "British Birds," has pointed out that red-starts and red-wings, for example, show no restlessness or "urge" to migrate during the migration season when confined in a large sheltered aviary.

Let us now turn to the second Law of Currents which is as follows :

THE SECOND LAW OF CURRENTS.

Air or water-borne bodies, heading through an intervening current for a fixed spot, must proceed on a curve, and must arrive at their destination, if at all, exactly head on to the current.

An analogy of a bird heading for a fixed spot through an air-current is furnished by an unreasoning person in a boat crossing a river.

A reasoning boatman, bound for a fixed destination in or across a river, steers a course which, though not apparently the direct course, becomes the direct course when the course and speed of the boat are superimposed upon the direction and

speed of the current. When the destination, as in a river, is visible, he so adjusts the course of his boat through the moving water that the bearing of the destination, the equivalent of the direct course over the ground, remains constant. Judgment, knowledge and close reasoning are thus needed, and employed.*

On the other hand, an unreasoning person whose mind is as complete a blank on the Laws of Currents as are the minds of many leading biologists, and of all birds, will steer straight for the spot he wishes to reach. He will thus row an unnecessarily long distance, and if he can reach the desired point before he is exhausted, he will reach it *exactly* bows on to the current.†

An admirable example in nature of the curve assumed by an unreasoning creature steering for a fixed spot through a current is provided by the water-rat. Here the speeds are reduced to speeds which the eye can follow, and an observer can watch the ever-varying angle which the course of the rat through the water makes with the direction of the stream itself. Furthermore, the current of water, unfelt and unperceived by the water-rat, can be *seen* by the observer. Those who have watched these little creatures crossing a stream will immediately recall the curve, and recollect how the rat, as it nears the other side, is heading progressively upstream, and how it eventually reaches the other side, if there is no impediment, exactly head on to the current. It may well happen that a spit of sand, or a tree-root, may jut out into the stream so that the rat's *homing curve* is interrupted. In this case it lands and proceeds overland to its destination, this last part of the journey being *straight* because the ground is stationary. But who has ever seen the water-rat *allow* for the current as a seaman allows for the current through which he is navigating his vessel? If it is true that the animal world learns wisdom by experience, and transmits this accumulated wisdom as "instinct" to succeeding generations, as evolutionists assume, it is curious that, as the ages roll by, no water-rat has discovered the saving of exertion possible if it made *allowance* for the current which separates it from its destination across the stream. Such a seemingly trifling, though in reality infinite, step forward in the mental "evolution" of rat "mind" continues to be conspicuous by its absence.

* See Fig. 1 and explanation.

† See Fig. 2 and explanation.

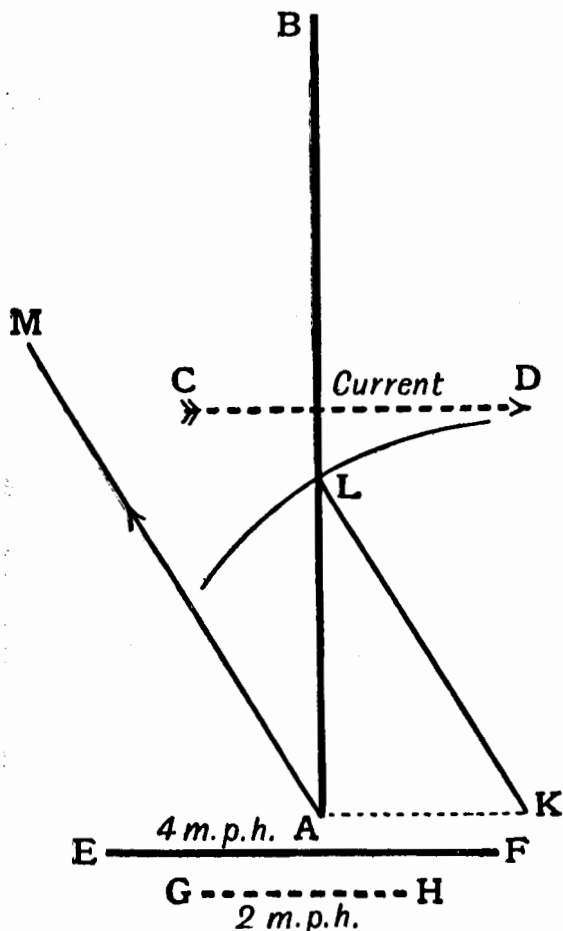


FIG. 1.—THE STRAIGHT LINE OF REASON.

Suppose a boatman wishes to row, or a seaman to steer, from A to B, across a current CD at right angles to AB, and flowing at, say, half his own speed. Problem: to get to B with least exertion, or expenditure of fuel, and in shortest time.

Let a length EF represent the rate of rowing or steaming, and GH, in proportion, the rate of current. Set off AK = GH at right angles to AB, and with centre K and radius EF describe an arc cutting AB at L. Now draw AM parallel to KL. If then the vessel be headed continuously on the bearing given by AM, it will automatically reach B along the direct line from A.

Similarly with regard to aviation.

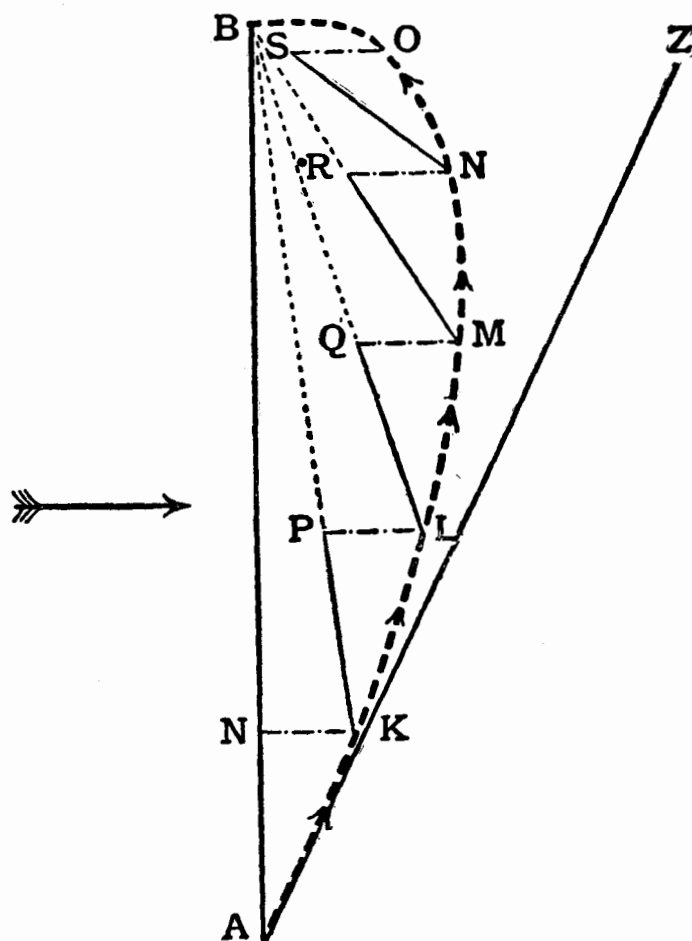


FIG. 2.—THE INSTINCTIVE CURVE OF NON-REASON.

An unskilled boatman at A heading direct for B, across a current flowing at half his own rate at right angles to AB, instead of proceeding from A to B direct will ultimately reach B by the curve AKLMNOB, and exactly head-on to the current.

Similarly with regard to bird flight.

Here is another fact which conflicts with the theory of Evolution.

Let us now bring into conjunction the two Laws of Currents to which birds must, from the beginning of time, have been obedient. From the first Law it is plain that birds are absolute parasites of the moving atmosphere and must thus be subject to the dominance of their aerial environment when the speed of the movement of this environment is high relatively to the bird's own speed. It shows, furthermore, that a bird is *compelled* to drift from its home without any *intention* of migrating.

From the second Law it is plain that, in the absence of an unerring sense of direction, a bird must be endowed with a reasoning mind capable of recognition, and of action based upon recognition, if it is to regain its home from the distant lands to which it has drifted.

But flight by recognition is impossible because the winds which carry away the birds in the Autumn vary in direction, though the general trend is constant. Birds must, therefore, be drifted to localities which they have not previously visited. How then is recognition possible? Furthermore, over great stretches of sea no leading marks exist. We are thus forced to the conclusion that birds have an unerring homing sense which orientates them to the exact spot in space at which they were born. That birds have this imponderable sense is, as a result of experiment, accepted by well-known biologists.

In the *Quarterly Review* of July, 1927, the late Sir J. Arthur Thomson said: "The experiment made with brooding terns removed in closed baskets from the Tortugas, and taken on board steamer for hundreds of miles into unknown waters, whence a variable percentage returned in safety,* seem to prove conclusively that there is a 'sense of direction' whose nature and location are quite unknown."

Again, on the same authority, a pigeon returning to its nest will fail to retrieve its eggs which have been removed from the nest to a distance of *two inches*, a fact which well illustrates the exactness of the mechanical sense of direction, but which reflects gravely on the "mind."

* That some birds did not reach home was owing to the mean speed of the intervening air-current and the consequent failure in endurance of the bird: it was not attributable to a variable accuracy in the sense of direction.

What scientific experiment suggests, reason, in *this* instance, confirms. The fact that a water-rat, or a bird, reaches its destination exactly head to wind proves, by abstract reasoning, that it does in fact head for its destination as otherwise it would not arrive head to wind. It also follows that birds always fly on curves governed by the force and direction of the intervening air current. We need not, therefore, look further for the cause of the "variation of fly lines" to which biologists so frequently allude, though they wilfully, or blindly, disregard the conflict between the variation of fly-lines and their theory of flight by recognition, a theory by which they support their assumption of "mind" in birds. Owing to the variation in the winds, curves of flight must be infinitely variable, a fact which *quantitatively* disproves the use of recognition for which, as I have shown, there is no need. If the two unchanging Laws of Currents are now linked with the sense of direction, or "homing sense," the phenomenon of migration assumes a beautiful harmony bereft of every vestige of a reflecting mind in the birds themselves.

Let us now consider briefly the "migration," or as I prefer to call it, the *drift* of the swallow. Let us assume, as before, that its flight speed is 50 miles per hour. During the normally quiescent summer months it will leave its nest at daylight and hawk its food on the wing, its own flying speed enabling it to return at dusk to its home, the spot in space to which it tenaciously clings. When the equinox, with the accompanying instability of the atmosphere, arrives, we will assume that the mean speed of the wind rises to 30 miles per hour, a speed greatly increasing with height. The swallow leaves its nest at dawn and on the wing becomes unconscious of the wind which, to the bird, is a moving calm.

When hawking a fly *down wind*, it covers the ground at 80 miles per hour. When it turns to chase its food *up wind*, though still unconscious of wind pressure, it makes good 20 miles per hour over the ground. Multiply such evolutions through the day, and it is clear that the swallow will drift great distances away from its home and in the direction towards which the prevailing wind is blowing. At dusk, far from its nest, it will *perch*, if over land, while over the sea, if its endurance, an exact quantity, is exhausted it will drown.*

* See Fig. 3 and explanation.

Day by day the process of drift will continue, the bird striving for home when not engaged in its primary business of feeding. It thus "migrates" *backwards*: its drift is *resisted*, and in Southern climes it is a homeless vagrant, as confirmed by the late Mr. T. A. Coward. The bird is cut off from its Northern home by the winds of winter which, if turning southerly for a

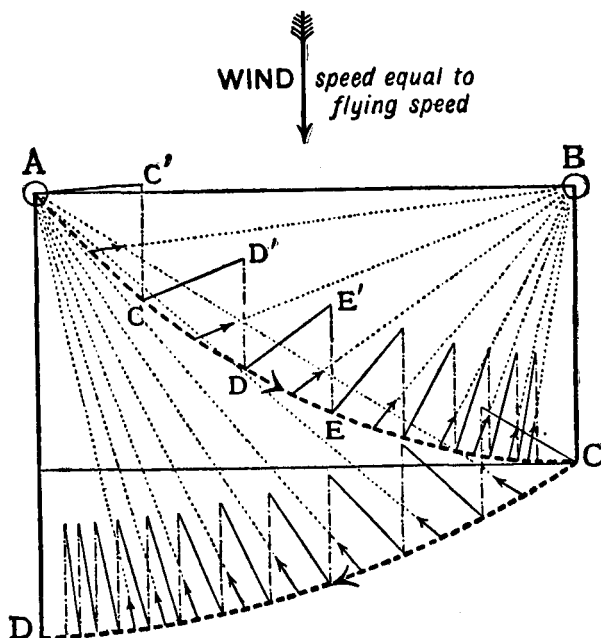


FIG. 3.—DRIFT CURVES.

Wind speed—at right angles to AB—assumed equal to bird's flying speed. Thus a bird starting from its nest at A and hawking food in any direction, as towards B, for instance, will be carried to C ($BC = \frac{1}{2} AB$).

Trying now to return to its nest at A, it will be carried to D; and so on, with infinite variety, throughout the day, the case being at its worst when hawking down wind.

few days in a mild winter, will bring swallows unexpectedly to England while unusual mildness lasts.

Having considered the effect on the birds of Autumn and Winter let us turn to Spring. Spring, as we know, is accompanied by southerly and south-easterly winds within which the

swallows, though unconscious of the winds, are still hawking their food and orienting themselves, when not feeding, for home. Their autumnal drift backwards is thus reversed into a northerly drift home, the speed of this drift, broadly speaking, being the sum of the bird's speed and wind speed instead of the difference. We should therefore expect the return to be very much more rapidly executed than the departure. This reasonable expectation has recently been confirmed in *The Times*, where a correspondent showed that the return of the storks *from* the south occupied approximately half the time of the drift from their homes *to* the south.

As already shown, the swallow's track for home is on curves. Because, in the course of its wanderings, it will experience gales from directions which differ from the main direction of the permanent winds, these curves of flight will sometimes take them over oceans in which they will be drowned in myriads when their flight capacity, an exact quantity, is exhausted. The comparative stability of the numbers of the bird world reveals how enormous the annual loss must be through flight failure.

Lack of space prohibits further consideration of "migration," common to *any* bird of *any* species that becomes subject to the great air currents of Autumn, Winter and Spring. But, as I have shown in "This Bondage," all bird phenomena which introduce the flight factor become explicable through the operation of the Laws which I have explained. By these Laws we can safely anticipate the desertion of nests in exposed sites; the drift of fledglings to the south before their parents; the premature appearance of young passage-migrants across England; the separation of the sexes of a species in which the size, and therefore the weight, and thus the *flying speeds* of the male and female differ, and hence *the drift*, a phenomenon also occurring with butterflies; the earlier re-appearance in the nesting season of the heavier, and therefore faster, bird of a pair (generally the male). In the case of the red-legged phalarope the female is the heavier bird which thus arrives home before the male. During the southern winter drift, flocks of female birds will tend to develop without a male in the flock. These and other phenomena are all in harmony with the Laws of Currents regulated by the "homing" sense.

The sequence of events is determined, not by any gleam of memory or reflecting capacity in the bird, but by the changeless

laws of physics and dynamics. If, therefore, birds are mindless, there can have been no "evolution" of mind in birds; neither can there be any common denominator between the brain of bird and man, as evolutionists claim.*

* * * *

Up to this point I have offered *quantitative* disproof of bird "mind." I have also shown that the structure of a bird's wing cannot have adapted itself to meet wind pressure which, to a bird on the wing, does not exist, though assumed to exist by eminent biologists with little or no knowledge of the laws of physics and dynamics. I will now turn to a demonstration that birds cannot have evolved from a common origin or to suit changing environments.

"The Law of Dispersal" is said to be an evolutionary "law" based upon the assumption that bird life underwent wholesale extermination in pre-Glacial, inter-Glacial, Pliocene, or Pleistocene Ages. Arising out of this alleged disaster present migrations are attributed to "the constant endeavour" of what we are invited to regard as the relics of such exiled life, to regain and "re-people" the area that it once occupied during pre-Glacial times.

"Extension of range" is treated as an indication of the gradual success of this "constant endeavour," while the trend of birds northwards at the breeding season is advanced by biologists as a proof of inherited memory passed on to succeeding generations in the form of "instinct," "sexual urge"—that bee for ever buzzing in the biological bonnet—being invoked as the "trigger" which sets this train of inherited memory in motion. The main routes of migration are alleged to provide proof of long vanished land-masses over which, without a shred of evidence, hundreds of fathoms of sea now roll.

In evolutionary works on ornithology† we find the assumption that there was "a cradle of the bird world" in which bird life

* In her recent book, "Animal Mind," Miss Frances Pitt says: "I firmly believe that the mind of *Homo sapiens* differs in degree, but not in kind, from that of his fellow-inhabitants in the world."

† Writing in the British Association number of *Discovery* of September, 1927, Professor C. J. Patten, M.A., M.D., D.Sc., Professor of Anatomy in Sheffield University, says: "In no department of biological study is the evolutionary factor brought out more strongly than in bird movement."

first evolved out of reptiles, from which progenitors the various species, in their turn, are said to have "evolved" to meet new environments introduced, so far as an ordinary person can understand, by migration from the "cradle," or "specific centre" as it is sometimes called, to the outlying parts of the world. The "specific centre" theory thus seems to be a necessity of the evolutionary hypothesis.

Darwin admitted the difficulty, if not the impossibility, of reconciling the geography of the world with a "specific centre," extended by migration, so far as mammals were concerned. He and his disciples, however, felt themselves on surer ground when they applied their theory of migration from a primitive "cradle" to the bird world, for, as they erroneously have supposed, birds are *free*, and can fly where they like and evolve and change their nature to suit new environments.

I have already shown that the Laws of Currents, and these alone, are responsible for the dispersal of birds. Subject to these laws bird life ebbs and flows about the world in harmony with the great seasonal winds. In addition to the seasonal winds, however, there are the *permanent* winds which impose impassable barriers, and which confine the birds of the various species to localities agreeable to their specific needs. May I direct your attention more particularly to the two great belts of permanent wind round the world. These two winds are north-easterly, north of the Equator, and south-easterly, south of the Equator. The tropics are dominated by these two great permanent winds which are in reality rapid equatorial air currents flowing inwards from the outlying world. It is plain, therefore, that the bulk of tropical birds inhabiting the regions upon which these in-flowing currents converge must be physically prevented from leaving them so long as they prevail.

Conversely, if these mighty currents, for some cataclysmic reason, reversed their directions, the tropical bird world would be dispersed over temperate lands, their dead bodies being recovered in myriads, for they clearly could not sustain life below a certain mean temperature. Now inward-flowing air-currents must have prevailed since the world existed, and for the following reason. The earth has always, from the nature of things, been subject to a variation of that temperature which is derived from the sun, so that relatively to the temperate and arctic regions there must always have been a tropics. When the superficial heat of the cooling earth was greater, as it once

undoubtedly was, this added temperature was common to the world as a whole and was merely superimposed upon the permanently differentiated temperature due to latitude. But because differences in temperature, in conjunction with great land-masses and water-masses, are the direct cause of wind; and because the rotation of the earth, which is constant, superimposes a constant trend upon these temperature-created wind currents, there must, therefore, always have been *permanent* winds in the furthest ages of the past which would then, as now, present as impassable barriers to birds of limited flight power as must *seasonal* winds have always ensured their translation to parts of the world agreeable to the essential needs of appropriate species.

From the foregoing facts it follows that the species of birds found in particular temperature zones must have had separate origins. These facts seem, therefore, to demolish the "cradle of life" theory and thus the theory of Evolution as it affects the common origin of birds.

It is of interest to contrast the curious lack of knowledge of biologists, anatomists and embryologists, on the laws of Physics and Dynamics, as shown in "This Bondage," with the very exact knowledge of the writer of the Book of Exodus. In Exod. x, 13, we read :

"And the Lord brought an east wind upon the land all that day, and all that night; and when it was morning, the east wind brought the locusts."

And again in verse 19 :

"And the Lord turned a mighty strong west wind, which took away the locusts, and cast them into the Red Sea."

The story of the locusts, as of the quails, exemplifies not only the remarkable accuracy of Biblical narrative, but the employment, and not the transgression, of natural laws in miracles of Divine interference with the ordinary affairs of man.

In my recent book, "This Bondage," I have, by means of quotation, exposed the remarkable ignorance of the "biological" world of the physical laws which govern, *absolutely*, the environment in which birds and insects on the wing operate. This ignorance reveals the extraordinary danger of the over-specialized study, and therefore prejudice, of what is called the science of biology. In this connection, I should like to associate myself

with the protest of the late Lord Halsbury who, as President of the Victoria Institute, on June 21st, 1915, said :—

“ I wish to make a general protest against the notion that a gentleman who calls himself a ‘ Professor,’ without any sufficient qualifications, is thereby placed in a position of authority, and can make statements without a particle of evidence to prove them. I may be prejudiced in my view by my experience as a lawyer, but in court we are expected to give full proof in support of every assertion, and if we do not, it is naturally assumed that it is because we cannot do so. A ‘ Professor,’ on the other hand, appears to consider himself relieved from any such anxiety. He seems to think that all he has to do is to say that such and such is the case, and as he is a ‘ professor ’ he cannot be contradicted or brought to book. If anyone brings forward an argument on the other side, the ‘ professor ’ says that his opponent has made a mistake ; but being a ‘ professor ’ he does not consider himself obliged to substantiate even this assertion.”

As I have challenged, a little sharply, the evolutionary theories of “ biology ”—the word of life—I cannot do better than quote the very candid admission of Sir Arthur Keith who, in the *Evening Standard* of October 15th, 1928, said :—

“ To confess the truth, we are a team of tipsters rather than serious students of the book of life.”

DISCUSSION.

The CHAIRMAN (Mr. Douglas Dewar) said : Our Society is greatly indebted to Captain Acworth for his admirable paper. I hope that those of you who have not already done so, will read his volume “ This Bondage,” which I deem to be the most valuable contribution to the subject of bird migration, which has been made since the appearance, some twenty years ago, of Howard’s “ Territory in Bird Life.” Captain Acworth’s book has received scant recognition by ornithologists, because, being an attack on their fetish, evolution, it is to them anathema !

As Captain Acworth points out, ornithologists, owing to their erroneous views of bird flight, and their belief that birds have complete mastery of the air, have paid little attention to the effect

of wings on migration. Obviously the migrations of those birds whose powers of flight are comparatively poor must be largely regulated by the prevailing winds. As long ago as 1603 George Owen wrote of woodcock in Pembrokeshire: "Yf ainie Easterly winde be alofte, we shalbe sure to have him a fortnight and sometimes three weekes before Michaelmas." But it seems to me that, in the case of powerful fliers, the southern migration in autumn is something more than a mere drift more or less against the will of the birds.

Take the case of the swift, probably the most powerful flier of the birds that visit England. It is, after the cuckoo, the first bird to go south. Observations of Blackwell, extending over 14 years, show that August 17th is the average date on which swifts disappear from the neighbourhood of Manchester, while that of the great majority of migrants falls in the second or third week of September. Thus the bird best able to fly against the wind is one of the first to leave this country in the late summer. The swift departs at a time when the temperature is high, as a rule some 8 degrees higher than at the time of the bird's arrival. Apparently it is not lack of suitable food that causes the swift to leave us, because a few swifts remain after the great bulk have disappeared; individuals have been observed in England as late as October 25th. It seems to me, then, that there must be an urge to the southward migration just as there is to the northward one.

Possibly the birds that periodically migrate may fall into two classes, those which migrate because instinct urges them to do so, and those that have no such urge, but drift under the action of the wind, southward in the autumn and northward in the spring. Should further observation show that this is the case, the discovery will be the direct result of Captain Acworth's work. His remarks about winds being a barrier to the dispersal of birds are most suggestive. I think that the prevailing winds of the earth must prevent all weak fliers from spreading from the northern to the southern hemisphere, and *vice versa*.

Further, if the evolution theory be true, the earliest birds to evolve must have been indifferent fliers, and the various wind currents would have completely controlled the range of these. It is significant that the great majority of our northern migratory birds seem never to migrate beyond the equator. On the other hand, there are

perhaps forty species that breed in northerly regions but spread as far south as Cape Colony in winter ; the swift, swallow, red-backed shrike, spotted flycatcher, willow warbler, white stork, several of the terns and sandpipers, and others.

My views on evolution are entirely in accord with those of Captain Acworth. There are signs that the general public are beginning to see that the hypothesis is not supported by adequate evidence. Last spring, in the course of a lecture on Indian birds given before the Midland Institute, I made the following remarks which were received with applause : " Evolutionists assert that birds evolved from some reptile. I don't believe this. There is no fossil evidence in support of the hypothesis. The Jurassic bird *Archæopteryx* is no more evidence that birds evolved from reptiles than the duck-billed platypus (an Australian bird that lays eggs and has a duck-like bill) is evidence that mammals evolved from a bird. When some one will show me a series of fossils linking an undoubted reptile to an undoubted bird, I will take off my hat to the evolutionists. Until this happens, I beg leave to assert that evolution is an unproved hypothesis. I am prepared to argue the matter out in public with any evolutionist who cares to accept the challenge." This challenge has not been accepted, and is not likely to be. Lord Halsbury's remarks quoted by Captain Acworth, are fully justified. A man would be non-suited in a Court of Law who based his claim to an estate or a title on his descent from an ape or other animal, because he could not adduce a shred of evidence in support of his claim. It would be a good thing if every biologist were made to study the Laws of Evidence in order to learn how properly to weigh evidence.

I do not follow Captain Acworth when he denies that a bird has a mind ; but, as he does not define the term, it may be that we agree on this matter. I cordially endorse his protest against the anthropomorphism that characterizes the writings of Miss Frances Pitt and many other naturalists. May I repeat what I have said elsewhere : " Whatever they may be, the fowls of the air are not feathered human beings, of limited intelligence and devoid of learning."

No matter what views we hold, I am sure we agree that Captain Acworth has given us a most stimulating paper, and so I call on you to accord to him a hearty vote of thanks.

Sir Ambrose FLEMING (President) said: This paper by Captain Acworth contains much interesting matter for discussion. The author has made plain some difficult points in relation to the motion of animals through moving air or water, and shown that some assumptions regarding such motion are erroneous. The same was formerly the case with regard to the motion of ships through water. These assumptions were only corrected by careful experiments and observations.

The question on which there is still some room for debate is on the theory of the migration of birds. The author grants that birds have "an unerring homing sense" and can return from great distances to their nests or domiciles. This power, however, is exhibited by many other animals, such as dogs and cats. Whether it comes of sight, hearing, or scent, it does seem to indicate the operation of *mind* of some kind—the outcome of memory of places or stored-up visual impressions.

As regards the theory of bird-migration which the author has given to us, I venture (only with diffidence) to comment on it, on account of ignorance of my ornithology. Is it not a fact, however, that this migrating power is very different in various species? Some birds journey thousands of miles and some hardly any distance at all. Again, if it is due primarily to the action of wind on the bird, how is that reconciled with the great irregularity in the direction and force of the wind at any one place?

Even though birds may have no feeling of pressure of the air on flight yet when trees are blown violently about by wind and drenched with rain, and when food is difficult to obtain and the hours of darkness are long, the bird must find life more difficult, and realize by experience that flight to the south or toward the sun, renders conditions more pleasant. These experiences may be stored up in memory and transmitted from one generation to another by habit. I cannot agree with the view that birds have no "mind," although their intelligence is different, not only in degree but in kind from the conscious reasoning intelligence of the human being. The migration of birds must be based on some experience of the species in the far past, that advantages are gained by having, as it were, a double domicile, and avoidance of privations due to winter weather conditions by the annual shift of residence. The true nature of animal

instinct and the continual performance of useful actions, in identically the same manner generation after generation is, however, a very large and yet incompletely solved problem.

Mr. G. A. LEVETT-YEATS, C.I.E., F.Z.S., said : I wish to thank Captain Acworth for his paper, which has very aptly been described by the Chairman as "stimulating." It does, indeed, give food for thought, but there are one or two points which do not appear to have been dealt with, and on which I would ask for further information.

The President of the Institute has already asked a question that also came to my mind, namely, why are not all birds forced to migrate by the winds that cause the migration of some species ? This question, which is very pertinent, I would like to amplify somewhat, by asking why it is that these winds exert their power over only some members of a migratory species and not on all the members ? Thus some robins migrate, while others remain resident.

The same may be said of other birds, such as blackbirds, rooks, etc. All the members of these species should come under the influence of these winds, but as a fact, they do not. Also in regard to the intelligence of birds, I do not feel that the evidence supports the view that they have no intelligence, and cannot learn. Doubtless their range of intelligence is limited, but their brain, the organ of intelligence, is modelled on the same plan as the human brain, though it is not so highly developed.

I would mention as an instance of intelligence and observation, that some starlings that frequent my garden have now learnt to feed on a piece of fat that I hung up on a tree for the benefit of the tits. Last year the starlings did not attack the fat except on one occasion, when one bird did so for a brief period. This year they have noticed the fat, and now regularly feed on it, perching on it, and hanging on to it much as the tits do. This seems to show that they have learnt something new, and have some mental powers, though limited.

Mr. R. DUNCAN, while welcoming the lecturer's opposition to evolutionary theories, said he found difficulty in accepting any idea that migration was involuntary on the part of the birds, and

was, in effect, due to their being carried alternately north and south by seasonal winds. His own impression, from recollections of swallows congregating together before migration, was that, when they disappeared the general trend of the winds was not such as would compel (or even assist) southerly flight. He had read, moreover, of a pathetic instance of endeavour to migrate along the ground. It came under notice on the pampas of South America, a pair of wild geese being concerned. The female had a broken wing and the male, instead of departing with the main flock, had loyally remained with her. She, poor thing, when seen, was trying to negotiate the long, long trail southward on foot, while her mate, at brief intervals, flew a little ahead to encourage her, waiting then till she came up.

As to the existence of mind in birds, it seemed to him indisputable. Consider only the amount of circumspection they showed in the choice of nesting-places. They always took care to build, either where the nest was well hidden, or where enemies could not easily get at it. And is it not reasonable to infer that, as in the case of humans preparing to set up house, the pair concerned would have to do a lot of preliminary hunting round and mutual consultation before deciding finally where to make their home ?

Pastor G. J. COOKE said : It is an observed fact that migratory birds on the E. coast usually arrive against the wind during the autumn migration, and travel along the North Norfolk coast in an E. to W. direction, *i.e.*, continue in a direction against the prevailing winds at that season. The general trend of migration is from Siberia across Europe, and *via* Jutland, to the east coast of England, then passing southwards and south-west to France and southern Europe. I should like to ask the lecturer how that agrees, especially in the case of the swallow, with his theory of "drift," seeing that swallows congregate in flocks, and "take-off" in September in a direction contrary to the usually prevailing winds ?

Dr. R. B. Riviere, in "A History of Birds of Norfolk," says : "Only brief intervals exist during the year when migration is not in progress . . . autumn migration begins last week in June or early in July with the return of the waders. In this group the spring and autumn migrations nearly overlap, for hardly have the last of such species

as Grey Plover and Dunlin left for their northern breeding quarters, than the first young birds of more northerly breeding Dunlin arrive." I ask then, how can these migrations be due to wind direction?

J. H. Gurney, F.Z.S., a well-known ornithologist in his day, said, in a pamphlet entitled "Bird migration on the East coast of England": "This preference for a head-wind may be the deciding factor in determining the direction in which they move."

W. Eagle Clarke, "Studies in Bird Migration"—says: "The deciding factor in undertaking the sea-passage would appear to be, the presence of anticyclonic conditions . . . *perhaps rather the cessation of a tail-wind.*" Anyone knowing the East coast from which I happen to come, or near it, will know that the prevailing wind for long periods in the spring months, during which the spring migration takes place, is north-easterly, or at least from between north and east, or exactly opposite to the direction of the migration trend. The whole of the above evidence tends to show a purposive movement in migration, often carried out against great obstacles.

WRITTEN COMMUNICATION.

DR. A. LANDSBOROUGH THOMSON, C.B., author of "Problems of Bird Migration" (1926) wrote: Captain Acworth begins by expatiating upon some elementary physical facts about wind and flight, to which he gives a false appearance of novelty and alleges ignorance of those facts on the part of biologists. Everyone will admit the truth of his statement that a bird or any other flying thing is in effect part of the body of air in which it flies, that its own movement is relative to this body, and that it is therefore incapable—once it has left the ground—of feeling either the strength or the direction of any wind there may be; it feels, indeed, only the head-on draught caused by its own passage through an apparent calm. This fact is very well known, and the suggestion that a contrary belief is "common if not universal among biologists" is absurd.

This "law," with its implications of *air speed* and *ground speed*, is correctly stated—or taken for granted as an obvious truism—in serious modern works dealing with aspects of ornithology to which it is relevant. Such terms as "head wind" and "side wind," condemned by Captain Acworth, have a perfectly proper meaning when the movement of the flying bird *relative to the earth's surface* is

under consideration. Captain Acworth insists that "the wings of birds are *oars*, not sails," but this distinction is familiar; it can be found expressed in ornithological works of the present and past centuries—not to mention that the simile was used by Virgil!

Captain Acworth's second "law" is scarcely less a truism. It is that air-borne bodies *heading continuously for a fixed point* through an air-current must proceed on a curve, and must arrive at the destination exactly head to wind. His further assumption that birds have the power of heading continuously across wide seas toward an *unseen* fixed point, however, is purely speculative, and there are alternative theories of orientation that have at least equal plausibility. As a speculation it is of some interest, but Captain Acworth is not entitled to regard it as proven fact upon which further argument can be securely based.

Captain Acworth has still more completely abandoned knowledge for speculation when he argues that, because wind has its admitted effect upon flight, it must therefore be the sole cause of migration, and he is thus led to a conclusion which is at variance with another well-established body of facts. He has drawn a fanciful picture of autumnal migration as a mere "drift" forced upon birds by prevailing winds, and in doing so he ignores the observational evidence which shows that the reality is something quite different. (Curiously, the "biological urge" which in this case he scorns as a figment of evolutionist theory, is retained by himself to explain the return journey; the bird, it appears, is striving to return home even in autumn, but it is not until spring that the winds permit!) Captain Acworth's attempt to reconcile his description with the ascertained facts of ornithology consists of ingenious special pleading, in which he mentions only such of these facts as seem convenient to his theory. He also celebrates an imaginary triumph over ideas which are not actually held by biologists, such as that migration over the sea follows the now sunken land-bridges of a former geological age.

Migration flight, like all flight, is of course affected by the wind. It may be helped or hindered by it, and at times diverted or prevented. But there is a great body of evidence on record to show that migration is not mainly determined by this factor. For instance, much migration takes place against the wind, despite the

greater labour involved in the journey ; and simultaneous streams of migration often proceed in quite different directions. Captain Acworth is content, on purely theoretical grounds, to imagine swallows as being driven backwards by the wind each autumn, apparently for the whole six thousand miles from Great Britain to South Africa ; on the other hand, many have shared my own experience of watching for hours a stream of migrant swallows flying steadily southwards in the teeth of a gale.

Other points may be briefly cited. Many birds that are as much exposed to wind as some of our typical migrants, do in fact remain stationary throughout the year ; conversely, some species which otherwise scarcely fly at all are regular migrants. Migration is also commonly performed at night even by birds which are not for any other purpose apt to be on the wing after dark. The adult cuckoo leaves us in July and the swift in August—well before the “ equinox, with the accompanying instability of the atmosphere,” which Captain Acworth considers to be so significant in the case of the swallow. Again, migrating birds are on occasion *observed* to fly by recognition—which he says they cannot do—quite obviously changing direction to follow some bend in the coastline or other geographical feature. Birds, indeed, simply do not behave as Captain Acworth’s theory demands they must.

Lt.-Col. T. C. SKINNER writes :—I had not intended to comment on the paper, but, having witnessed two days later what certainly seemed a definite confirmation of the theory of involuntary migration, it seems of interest to record the fact. At Reigate, on January 17th, where a strong westerly wind had been blowing for a week or more, I noticed (about 4 p.m.) a very large flight of birds of differing sorts and sizes, all flying high, coming up from the west. They were being borne along by the current, apparently dead against instinct or inclination, as every two or three seconds individual birds, noticeably the larger ones, would turn westward and head up wind in apparent effort to fly back to the locality from whence they had drifted, the brief intervals between successive efforts being occupied in flying hither and thither, rallying young birds (apparently), and generally maintaining their height. I watched them for eight or nine minutes from first view in the west till they passed

out of sight towards the eastern horizon. During the whole time the most obvious thing about the flight was the continually recurring westward orientation in effort to overcome the eastward drift. There was every appearance of the flight having been long continued, yet no hint of the birds coming down for rest or shelter till the wind might change; only evidence of blind struggle to get back; and one wondered what may have happened to them ultimately, whether they came down in England, or in the North Sea, or were carried across to Belgium or beyond.

LECTURER'S REPLY.

Mr. Dewar admits that weaker fliers must *necessarily* migrate, but he thinks that stronger fliers do so *voluntarily*. But stronger fliers, like birds of the swallow type which live on the wing, will be perpetually instead of occasionally subject to the atmospheric currents. It is true that a 30 m.p.h. current to a 50 m.p.h. bird is not overwhelming if the bird is *aware* of the current and *keeps to windward* by the use of reason. If, however, the bird flies indiscriminately, and is unconscious of the air currents, its drift will be irrevocable.

A study of the meteorological charts will show that, with an increase of height, the winds increase in strength and change their direction. At high altitudes westerly winds in the autumn turn southerly in Western Europe while flowing Eastward at lower altitudes. In July and August swifts are found to be flying, and presumably feeding, at tremendous heights. The not infrequent return of the swifts (like the swallows), in the late autumn will always be found to synchronize with unusual southerly or southeasterly winds. With reference to the *mind* of birds, I am of course referring to an objective and reasoning mind, and not to that mechanical operation of the senses by the physical brain which is common to all things that live, not excluding man.

Sir Ambrose Fleming attributes a "mind" to birds because of their proved "homing sense." But this homing sense is not upset when sight or hearing are impossible, as in the case of the terns quoted in my address, or, for example, of the American Golden Plover in its great Odyssey south across the Atlantic. Sir Ambrose refers to the varying migration of various species. But this surely is confirmation of my case, because the liability of the various

species to become subject to the movement of the atmosphere, depends upon their natural habits and habitats. A robin in a sheltered garden may remain there whereas another robin, perhaps of the same brood, may leave shelter to feed and thus inevitably drift. That many birds remain stationary, while others of the same species, and in the same district, "migrate," seems in itself to deny any migratory *instinct*, unless we are to assume that robins have individuality and individual tastes just as we have. Unless I am mistaken, Sir Ambrose assumes that the decision to migrate has now become an "instinct" as a result of experience and calculation in the past. If this were so, it would seem to reverse the theory of the evolution of mind, unless we are to regard "instinct" as superior to those prehistoric calculations of which it is alleged to be an outcome.

Mr. Levett-Yeats raises the same point with regard to *variability* of migrations as is raised by Sir Ambrose Fleming and my answer is necessarily the same. He argues a reasoning capacity in birds because their brains are modelled, physically, on the same lines as our own. But the physical brain is a keyboard, which controls the operations of our bodies. Damage to a limb puts a portion of the brain out of action, or *vice versa*, but it in no way impairs the reasoning powers of man, a fact which seems to demonstrate the complete divorce between reason and the senses which the physical brain actuates.

Mr. Duncan refers to the *congregation* of swallows before migration and he thinks that the swallows have so congregated *with a view* to migration; but the packing of swallows, and their habit of perching at such times, are the necessary outcome of the drift to which I have alluded. For example, a strong wind from the N.W. brings the birds in the N.W. down upon birds which will experience this wind *later*. Hence packing. Perching in the autumn is the outcome of weariness with the effort to remain at home, coupled with the absence of the homes from which they have drifted. Mr. Duncan regards nest building as a sign of reasoning intelligence, a view which Mr. Dewar has convincingly exploded in his remarkable book *Birds at the Nest*. Indeed, the ability of a chaffinch to build a perfect nest in its first season, and a nest similar to the nests of its species, seems sufficient answer to Mr. Duncan's contention.

Pastor Cooke repeats the frequent statement that birds on the East coast usually arrive against the wind. He will admit, however, that a bird with a flying capacity of 30 m.p.h., stemming an air current of 25 m.p.h. could only make 5 m.p.h. over the ground. Under such conditions a distance over the North Sea of 900 miles would be increased to a distance of 5,400 miles. Surely the explanation is this: The birds which he has witnessed stemming the westerly air current are not in reality *migrating*, but birds which have drifted from England, and which are still endeavouring to remain at home, or to return there. My conclusion seems to be confirmed by Mr. Riviere, who appears to be unaware that birds cannot *dislike* a tail wind which they cannot feel. Pastor Cooke seems to dispute that birds are physically unconscious of the air currents in which they fly, but he can obtain confirmation of the truth of what I say from any physicist, mathematician or airman, or from Dr. Landsborough Thomson.

Dr. Landsborough Thomson confirms the accuracy of the laws of currents as enunciated in my paper, thereby supporting my reply to Pastor Cooke. He reproves me, however, for emphasizing such well-known laws, and appears to resent my suggestion that ignorance of these laws is common among biologists. How common is this ignorance I have shown in *This Bondage* and in *This Progress*. But like the scientific Journal, *Nature*, Dr. Thomson does me an injustice. I have never claimed to have discovered the laws of currents. On the contrary, I have expressed astonishment that world-famed biologists, such as the late Sir J. Arthur Thomson, should have been in ignorance of these elementary laws of dynamics, and that those who do know them, as apparently does Dr. Landsborough Thomson, should have failed to draw the clear conclusions which demolish their own cherished theories.

If I may say so, he finds himself in a quandary. He admits the inevitability of drift, but in order to support conclusions based upon deceptive physical observations, he refuses to face the consequences of laws which he acknowledges to be correct. In disputing the ability of a bird to head continuously across wide seas toward an unseen fixed point, he disputes the experiment and the conclusions of the late Sir J. Arthur Thomson in the case of terns, unless he seriously wishes his readers to believe that a tern can see a fixed

point many hundreds of miles away, which implies the ability to see through the earth. His objection to the proved "sense of direction" seems to be its disproof of flight by *recognition*, involving *mind*.

By the term "biological urge," I am referring to that sexual urge which biologists seem to regard as the mainspring of animate nature, whether of human beings or brutes. What Sir Herbert Maxwell calls "the invincible habit of returning to its birthplace" is always operative, thus ensuring that the bird will leave home and return home when, and only when, the conditions are agreeable to its needs. Dr. Landsborough Thomson repeats the assertion that much migration takes place against the wind. He says that "he has watched for hours a stream of migrating swallows flying steadily southwards in the teeth of a gale." But what are his grounds for assuming that these swallows are *migrating* swallows? Has it not occurred to him that the southerly gale against which he observes the swallows flying, has been responsible for the drift of the swallows to the *north* of their homes, and that he is merely witnessing the bird's "invincible habit of returning to its birthplace"? He mentions migration by night when birds are not normally on the wing. Here again is confirmation of my case. Birds drifted *from* home, and striving *for* home, will from time to time inevitably be overtaken on the way by darkness when no perches are available.

Dr. Landsborough Thomson states that: "Migrating birds are, on occasion, *observed* to fly by recognition." But what grounds has he for assuming that a bird is using landmarks as a guide to navigation? When we consider the millions of birds on the wing, the orientation of some of them to particular spots which no observer can determine must necessarily cause some of them to fly, for example, along a coast line. Dr. Landsborough Thomson is, of course, aware, as he admits by the use of the words "on occasion," that flocks of "migrating" birds frequently maintain a course across great stretches of sea, and disregard the coast line and other land-marks, to the often expressed surprise of ornithologists. Human beings, we know, adjust their route by recognition, but when so engaged can it be maintained that their method of finding their way could be *observed* by an onlooker if the onlooker was not *assuming* the power of recognition in the person observed?

On Colonel Skinner's remarks I have no comment to make beyond expressing satisfaction at his remarkable corroboration of my simple explanation of that involuntary and resisted drift popularly known as "migration." If his observation on January 17th be compared with my short account of the drift of the swallow, it will be found to harmonize exactly, especially when it is realized that the birds which Colonel Skinner observed were as unconscious of wind pressure as are swallows on the wing.

774TH ORDINARY GENERAL MEETING,

HELD IN COMMITTEE ROOM B, THE CENTRAL HALL,
WESTMINSTER, S.W.1, ON MONDAY FEBRUARY 5TH, 1934,
AT 4.30 P.M.

THE REV. GEORGE H. LUNN, M.A., IN THE CHAIR.

The Minutes of the previous Meeting were read, confirmed, and signed, and the HON. SECRETARY announced the election of Captain A. H. F. Young, R.N.R., as a Member.

The CHAIRMAN then called on the Rev. F. W. Pitt to read his paper entitled "Jesus of Nazareth—the Prophet like unto Moses."

*JESUS OF NAZARETH—THE PROPHET LIKE UNTO
MOSES.*

By the REV. F. W. PITT.

IT was not until the career of Moses was practically finished that he uttered the famous prediction that the Lord God of Israel would raise up from among them a Prophet like unto himself. (Deut. xviii, 15, 18.) It seems easy, perhaps too easy, to conclude that the great Lawgiver spake exclusively of Jesus of Nazareth. As confirmation of that view the words of Peter in his appeal to the nation are quoted :

“For Moses truly said unto the fathers : A prophet shall the Lord your God raise up unto you of your brethren like unto me. Him shall ye hear in all things whatsoever he shall say unto you. And it shall come to pass that every soul which shall not hear that prophet shall be destroyed from among the people.” (Acts iii, 22-23.)

But it should be noticed that Peter does not say definitely that the prophet was Jesus of Nazareth. Neither did Stephen. His words to the Council were :

“This is that Moses which said unto the children of Israel : A prophet shall the Lord your God raise up unto you of your brethren like unto me ; him shall ye hear.” (Acts vii, 37.)

In Heb. iii, 2, there is a comparison between

“ Christ Jesus who was faithful to him that appointed him, as Moses also was faithful in all his house.”

But in this case there is no reference to either Christ or Moses as a prophet. The comparison is of the faithfulness of one as a servant, with the other as a Son, which is no confirmation of the interpretation that Moses spake of Jesus of Nazareth as the prophet whose raising up he predicted, though they may be right who consider that each of the texts I have quoted takes it for granted.

Ancient and modern expositors are divided on the question at issue : Most Lutheran Commentators as well as many Roman Catholics and Anglicans follow the ancient fathers in regarding the text as relating solely to our Lord as the promised prophet.

Some Christians of note, including Origen and Calvin, favour the view that the words of Moses indicate a line of prophets culminating in Christ. Mediæval Jewish authorities interpret it as applying to the prophetic office generally, and not to Christ at all. But Jews in the time of St. Augustine specify David, Jeremiah, and even Joshua as the prophet of whom Moses spake. This last view is also adopted by some modern commentators. The opinions of Jewish scholars are necessarily prejudiced because the nation that rejected Jesus as the Messiah could hardly admit that the Man they crucified was the great personage predicted by Moses like unto the Lawgiver himself.

Dismissing therefore as being unreasonable the suggestion that the prophet was David or Jeremiah or such like we are left with two views :

1. The prophecy relates to Jesus of Nazareth exclusively.
2. It includes the whole order of prophets culminating in Jesus of Nazareth.

There is another claimant to the honour, and that is Mahomet. At an Advent Testimony Meeting in Kingsway Hall this last summer there appeared an Indian, resplendent in a gorgeous uniform, and wearing a huge turban throughout the service. He took the opportunity of circulating a pamphlet, of which I have a copy, issued by the London Mosque, 63, Melrose Road, S.W.18.

This pamphlet boldly states that it is clear that Christ and “ that prophet ” are different persons. The conclusion is based

on the answers of John the Baptist to questions by the messengers from Jerusalem. (John 1, 26.)

“ Art thou that prophet ? ” “ No.”

“ Art thou Elias ? ” “ No.”

“ Art thou that Christ ? ” “ No.”

“ Why baptizest thou then if thou be not that Christ, nor Elias, neither that prophet ? ”

This, the pamphlet assumes is evidence that the Christ and the prophet are two different persons ; Elias making a third.

The argument is scarcely decisive for the questions show only what may have been the belief of the Priests and Levites of our Lord's day. John's replies do not touch that point, but merely express his renunciation of any claim to be anyone, but the herald who was unworthy to unloose the shoe latchet of Him whose coming he proclaimed.

Another point urged in favour of Mahomet is that “ the promised prophet must arise from among the brethren of Israel ”; i.e. “ he must be of the progeny of Ishmael.” If what I have read is true, Mahomet claimed to be a descendant of Medan, one of the sons of Keturah. He himself therefore was not a descendant of Ishmael, whose mother was Hagar. But in any case, Mahomet, being an Arab, was not a brother of the Jew. That claim could only be sustained if he were one of Jacob's descendants.

A further objection to Jesus raised by the Muslims, is that Mahomet claimed to speak the words of God, and that Jesus did not. “ Are there any words in the New Testament which are spoken by Jesus in the Name of God. Remember we want the actual words,” says the pamphlet.

My answer is that Jesus said,

“ My doctrine is not mine, but His that sent me. If any man will do His will he shall know of the doctrine whether it be of God or whether I speak of myself.” (John vii, 16.)

And again,

“ He that sent me is true, and I speak to the world those things which I have heard of Him.” (John viii, 26.)

And yet again,

“ As my Father hath taught me I speak these things.” (John viii, 28.)

Jesus did then claim to speak the word of God. So did Mahomet. But Moses did not say the prophet would claim to speak the words of God, but that he would actually do so.

Joseph Smith, the Mormon, and a host of others have said they spoke the words of God, but there is only One of Whom a Voice from heaven said,

“ This is My beloved Son, *HEAR HIM.*”

Let God decide upon the rival claims of Mahomet and Jesus.

Another proof is advanced in the pamphlet in support of Mahomet. It is that the words of Moses imply a complete victory of the promised prophet over his enemies. This, it is stated, is not true of Jesus.

“ He is rejected, scoffed at, maltreated, disgraced, arrested, tried, and crucified amid the rejoicings of the Jews ; and His own last lament bears testimony to His utter helplessness in the hands of His enemies : ‘ My God, My God, why hast Thou forsaken Me ’ ?

“ The prophet of Islam, however, had a different experience. He was avenged of his enemies in his own lifetime, and crowned his successes with the victorious capture of Mecca from where he had been forced to fly from his enemies eleven years before.”

“ Be it noted,” the pamphlet concludes, “ that by the reference above to Jesus’ death, it is not implied that he was a false prophet. What has been said is only from the point of view of Christians themselves. Otherwise we Muslims have perfect faith in His divine mission and believe Him to be a holy prophet who is honoured both in this life and the life to come. We do not believe Him to have died upon the Cross at the hands of the Jews, for reasons which need not be stated here, but we believe Him to have lived to a ripe old age, and died in some other clime and region on this revolving globe.”

And yet a British peer is prominent among the Muslims in England, in spite of this travesty of sacred and profane history, which is, apart from the known character of Mahomet, quite sufficient to warrant us in rejecting his claim to be the prophet like unto Moses.

How then can we decide the true import of the words which Moses spoke ?

Looking at the text there seems to be no doubt that a Person and not an Office is referred to. That person is a prophet like unto Moses. These two stand out as type and antitype; Moses, whose work was wellnigh done, and the One who should afterwards be raised up from among the children of Israel.

With the modern increase of prophetic study it is almost exclusively understood that a prophet is one who foretells things to come. But what did Moses mean by a prophet? He had used the word before. When Abimilech, king of Gerar took Sarah, God appeared to him and said:

“Restore Abraham his wife, for he is a *prophet*, and he shall pray for thee and thou shalt live.”

There was no idea of prediction in that description of a prophet. Again the Lord said unto Moses:

“See I have made thee a god to Pharaoh, and Aaron thy brother shall be thy *prophet*. Thou shalt speak all that I command thee and Aaron thy brother shall speak unto Pharaoh.”

In this case again the idea is that of one who should speak all that was spoken to him without any emphasis on prediction, though that might be included.

Balaam, as recorded by Moses, “saw the vision of the Almighty, falling into a trance, but having his eyes open,” and he uttered some marvellous predictions concerning Israel. But Balaam is not called a prophet till the time of Peter’s second epistle, a fact which might suggest that since the time of Moses the word Prophet had taken on the meaning of the word as we understand it.

That change appears to be referred to in 1 Sam. ix, 9:

“Beforetime in Israel when a man went to enquire of God, thus he spake: Come, and let us go to the Seer, for he that is now called a Prophet was beforetime called a Seer.”

There are three Hebrew words for Prophet—*Nabi*, *Chozek*, and *Roeh*. After the expansion of the meaning of the word prophet the words are used interchangeably, but before that, in the time of Moses, only the first word—*Nabi*—is used. Abraham was a *Nabi*; Aaron was a *Nabi*; they were prophets in the

original sense, and not seers, and this is the word used by Moses in Deut. xiii, 1-8, and xviii, 15 and 18.

This opposes the idea that Moses predicted the raising up of a prophet like Isaiah and others in the succession of prophets, for the word when Moses spoke had not yet taken on the meaning of seer, a recorder of visions. Therefore when Moses said "The Lord thy God will raise up unto thee a prophet from the midst of thee of thy brethren like unto me" he must have had in mind his own exalted position as head and leader of the people, who was unto them as God, organizing their armies, ordering their worship, leading their praises, codifying their laws, bringing bread from heaven, and water from the flinty rock, punishing their transgressions, and pardoning their iniquities, instituting their sacrifices, appointing their times and seasons.—He introduced a new order among men. He was the leader of a movement.

The prophet "whom God would raise up shall be like unto me," he said, and neither Isaiah nor Jeremiah, though prophets, were like Moses in the sense indicated.

We must realize something of the greatness of Moses if we are to identify the prophet who was to be like him.

Aaron and Miriam, his brother and sister, evidently failed to appreciate the lofty status of Moses. He was so meek, and then he had married an Ethiopian woman, so they said, "Hath the Lord only spoken by Moses, hath he not spoken also by us? And the Lord heard it." (Num. xii.)

"And the Lord spake suddenly unto Moses and unto Aaron and unto Miriam. Come out ye three unto the tabernacle of the congregation. And they three came out. And the Lord came down in the pillar of cloud and stood in the door of the tabernacle, and called Aaron and Miriam, and He said: Hear My words. If there be a prophet among you, I the Lord will make Myself known unto him in a vision and will speak to him in a dream. My servant Moses is not so who is faithful in all mine house. With him will I speak mouth to mouth even apparently, and not in dark speeches, and the similitude of the Lord shall he behold: wherefore then were ye not afraid to speak against my servant Moses? And the anger of the Lord was kindled against them."

This helps us to decide the question as to what Moses meant by a "prophet like unto him." The whole line of the prophets had

dreams, visions and revelations of the Lord. David was a prophet, the Holy Ghost spake through him. He made known things to come concerning the Messiah and the Kingdom of God, but he did not introduce a new dispensation of which he was the head. The same is true of all the prophets, "from Samuel and those that followed after as many as have spoken (who) have likewise told of these days." Moses, though he also foretold things to come, was something quite different, and it was in that something that the prophet who was to be raised up was to be like unto him.

It is urged by those who include the line of prophets in the prediction of Moses that the word used "*appears* to be a collective noun." If they are not sure that it is so, it is not evidence. The only other argument that I can find in favour of the idea of a succession of prophets is that Moses went on to tell how a true prophet could be distinguished from a false prophet. But that is a very slight foundation on which to build the argument. Perhaps Moses in contrasting the true prophet with the false may have had in mind the Christ and the Antichrist—the False Prophet of the Book of Revelation. If this should seem to be far-fetched, I would point out that Jesus, when the Jews were plotting to slay Him, said, possibly referring to this passage in Deuteronomy,

"I am come in My Father's Name (the true prophet), and ye receive Me not; if another shall come in his own name (the false prophet) him ye will receive" (John v, 43), and immediately the Lord went on to say, "Do not think that I will accuse you to the Father; there is one that accuseth you, even Moses in whom ye trust. For had ye believed Moses ye would have believed Me, for he wrote of Me. But if ye believe not his writings, how shall ye believe My words?"

Here is evidence that Jesus had in mind this very passage in Deuteronomy which is the only one in which Moses specifically wrote of Jesus, the prophet of Nazareth.

After His resurrection the Lord referred again to Deut. xviii. "Beginning at Moses and all the prophets He expounded unto them in all the Scriptures the things concerning Himself." (Luke xxiv, 27), thus favouring the idea that Moses referred to Him alone as that prophet.

From the time of Moses till the time of Christ, there were false prophets, who, like Mahomet, claimed to be the prophet like unto Moses. Jesus said, "All that ever came before Me were thieves and robbers; but the sheep did not hear them." (John x.)

Gamaliel, also, said to the Priests in Council when Peter and the other apostles were brought before them, "Before these days rose up Theudas, boasting himself to be somebody, to whom a number of men, about four hundred, joined themselves, who were slain, and all as many as obeyed him were scattered and brought to nought. After this man rose up Judas of Galilee in the days of the taxing, and drew away much people after him; he also perished, and all as many as obeyed him were dispersed." (Acts v, 36-37.)

What they claimed to be is not clear, but their example is sufficient to prove that impostors did arise in Israel before the time of Christ. But what is more important is that none of the prophets from Samuel to John the Baptist ever claimed to be, or was recognized as the prophet like unto Moses. And more important still, when the Lord came into the world there was in the minds of many an expectation of the prophet like unto Moses.

The case of the priests who sent to John the Baptist is proof of this, for they enquired of John if he were the Christ, or Elias, or THAT prophet. (John i, 20, 21.) They did not say "Art thou 'A' prophet, but 'THAT' prophet. So Philip also said to Nathaniel, "We have found Him of whom Moses in the law and the prophets did write, Jesus of Nazareth."

The Pharisee, to whose house Jesus went, when he saw the woman washing the Lord's feet, said, "This man if he were 'THAT' prophet (R.V.) he would have known what manner of woman this is that toucheth him." (Luke, vii.)

Again, when Jesus multiplied the loaves and fishes the men, when they had seen the miracle, said, "This is of a truth that prophet that should come into the world." (John, vi, 14.)

Again, when Jesus was at the feast of tabernacles He cried, saying, "If any man thirst let Him come unto Me and drink," many of the people said, "Of a truth this is the Prophet"—others said, "this is the Christ." (John vii, 40, 41.)

From these passages and several others it is evident that the belief was current at that time that the prediction of Moses had not been fulfilled in the past. The nation still expected the prophet like unto Moses. It is true that no one seemed to have

imagined that the Messiah and the prophet were one and the same person. Undoubtedly they thought they were two persons ; but then, to this day there are Jews who think there were to be two Messiahs, one to suffer and one to reign.

Moses "esteemed the reproach of Christ greater riches than the treasures in Egypt." To have brushed aside the very tangible values of the court of Pharaoh, proves that his knowledge of the Christ—the Messiah, was most definite. His intercourse with God must have impressed him with the certainties of divine promise, and brought that which was "afar off" very near, and made it very real.

But what did Moses understand by the Messiah ? The Jews, for personal and national motives demanded that the Messiah should be a King who would restore to Israel some of the glories of David and Solomon. They appear never to have thought of Him as a Redeemer, and the idea of Messiah as a King only, prevails even among some Christians to this day.

Moses thought of the Messiah pre-eminently as a Prophet. Did he also know that He would be a King and a Priest ?

It is remarkable that immediately preceding the announcement of the Prophet like unto himself Moses summarized the law for the appointment of the Aaronic Priesthood. And immediately preceding that he outlined the divine requirements of Kingship in Israel. There is no mention of them as typical of the Messiah, but it is significant that the Prophet, Priest, and King, appear in close connection in the address of Moses recorded in Deut. xvii and xviii. But if the connection is merely a coincidence it is certain that if the Messiah was to be like Moses He must not only be a Prophet ; He must be a Priest and a King, for Moses was a Prophet, Priest and King.

Moses was, as indicated, by his own direct word a Prophet, for he said :

"The Lord your God shall raise up unto you of your brethren *a prophet like unto me.*"

Moses was also a Priest. In Exod. xl he is described as fulfilling that office. He set the bread upon the holy table as the Lord commanded Moses. He lighted the lamps of the candlestick. He burnt sweet incense upon the golden altar. He offered on the brazen altar the burnt offering and the meal offering, and Moses and Aaron and his sons washed their hands and

their feet at the brazen laver ; while in Ps. xcix we read “ Moses and Aaron among His Priests.”

Therefore Moses was a Priest as well as a Prophet. He was also a King.

Deut. xxxiii, 4-5, says,

“ Moses commanded us a law, even the inheritance of the congregation of Jacob. And he was king in Jeshurun when the heads of the people and the tribes of Israel were gathered together.”

There are some authorities who claim that these words do not apply to Moses but to God, and for the reason that Moses is nowhere else called a king. But there are equally great authorities who believe Moses *was* referred to and it is certain that Moses discharged all the functions of a king although he was not crowned as such. We must also remember that he is only once spoken of as a Priest, and that he discharged the function of a Priest without the anointing that Aaron had.

I conclude, therefore, from these references, that Moses was a Prophet, a Priest, and a King, and if the Messiah was to be like unto Moses He also must be a Prophet, a Priest, and a King.

Moses himself said that the promised One would be a Prophet like unto him, and Ps. cx says :

“ Thou art a Priest for ever after the order of Melchizedek,”

and Ps. ii, foretells the day when God will “ set His King upon His holy hill of Zion.”

Therefore it is evident that the promised Messiah was to be not only a King, but a Prophet, Priest and King, just as Moses was, and it is most significant that in the New Testament the names of Moses and Christ are linked together in reference to each of the three offices.

Jesus was the prophet of a new dispensation. It was as a prophet He ministered during His life on earth. He did not do so as a Priest, for “ if He were on earth He should not be a Priest.” (Heb. viii, 4.) Neither did He rule as a King. He said, “ My kingdom is not of this world. If my kingdom were of this world then would my servants fight that I should not be delivered into the hands of the Jews ; but now is my kingdom not of this world.” (John viii, 36.)

The Lord spoke of Himself as a prophet—"A prophet is not without honour save in his own country and in his own house." (Matt. xiii, 57.)

And again, "I must walk to-day and to-morrow and the day following, for it cannot be that a prophet perish out of Jerusalem." (Luke xiii, 33.)

After His resurrection the disciples said of Him, "Jesus of Nazareth, which was a prophet mighty in deed and word before God and all the people." (Luke xxiv, 19.)

It is then as a prophet that Jesus ministered while on earth, and it is as a prophet that His Name is linked with that of Moses in John i, 17 :

"The law was given by Moses, but grace and truth came by Jesus Christ."

Moses was the prophet of the dispensation of the law, and Jesus was the prophet of the dispensation of grace.

When Jesus died and rose again He ascended into heaven, our Great High Priest, there to appear in the presence of God for us. His ministry as a Prophet being finished, His ministry as a Priest began, and again His name is linked with that of Moses :

"Consider the apostle and High Priest of our profession, Christ Jesus, who was faithful to Him that appointed Him, as also Moses was faithful in all his house."—(Heb. iii, 1-2.)

As a Priest the name of Jesus is linked with that of Moses.

Finally, as a King the name of Jesus is linked with that of Moses. Presently when the victors stand upon the sea of glass having the harps of God they will sing "the song of Moses, the servant of God, and the song of the Lamb, saying, Great and marvellous are Thy works, Lord God Almighty; just and true are Thy ways, thou King of Saints" (or ages or nations). (Rev. xv, 3.)

However much one man might have been a prophet like Moses, or another man a Priest like Moses, or another man a King like Moses, no one man but Jesus of Nazareth, the Son of God, the Messiah, was both a Prophet, a Priest, and King as Moses was, and that great fact seems to have been in the mind of the Holy Spirit when He caused the two names to be mentioned together when speaking of Jesus as Prophet, Priest, and King.

Balaam was a prophet, but he was not at all like Moses. He was a timeserver who accepted the rewards of divination, and he was neither a Priest nor a King.

Caiaphas was a Priest, but he was not a King, and though on one great occasion he prophesied he was not at all like Moses.

David was a prophet and a King, but he also came short of the exact likeness of Moses in that he was not a Priest. But Jesus of Nazareth was a Prophet, Priest and King, and in these three offices He was the one and only antitype of Moses who has appeared on the pages of history. And not only was Jesus of Nazareth like Moses in what He was, He was like Moses in what He did.

Moses brought a people from bondage to liberty—so did Jesus. Moses instituted the covenant of the law. Jesus instituted the covenant of grace. Moses shed and sprinkled the blood of redemption, and so did Jesus. Moses was the instrument of God in the great work of organizing a horde of slaves and making them a chosen nation, a peculiar people. So did Jesus. Moses led and fed the people in their wilderness journey. So does Jesus. And all that Moses did under the dispensation of the law Jesus does under the dispensation of grace.

We therefore conclude that till Jesus of Nazareth came into the world “there arose not a prophet since in Israel like unto Moses whom the Lord knew face to face.”

DISCUSSION.

On the call of the CHAIRMAN (Rev. G. H. Lunn) the thanks of the meeting was accorded to the lecturer, and the subject was open for discussion.

Lieut.-Col. MOLONY said: I expect that we shall agree that Mr. Pitt has proved his point, and that we are entitled to include Deut. xviii, 15 and 18 among the predictions of the first coming of Jesus Christ. Mr. Pitt was well advised to speak about expectation. You will remember that he quoted four cases in which the Jews of Christ's day spoke about “*that* Prophet” and *the* Prophet, in a way that made it almost certain that they were referring to Moses' prediction.

I am not a lawyer, but I believe that lawyers would agree that expectation is an important link in our chain of proofs. If you

have a remarkable prediction about a matter which could not be foreseen, and their expectation on the same lines lasting right up to fulfilment, and lastly an exact fulfilment that cannot be attributed to its being brought about, so to speak, on purpose; then you have a very complete line of evidence that the prediction was due to divine inspiration.

I am sure that we do well to stress the prediction that Messiah was to be a great prophet or teacher. Because almost everybody agrees that Jesus was a very great Teacher. Mr. Pitt was doubtless right to confine his remarks to only one of these predictions, seeing that he had so much relevant matter to say about it. We shall, however, do well to remember that there were several others. I could quote four distinct predictions that Messiah was to be a great teacher, in Isaiah alone. And there is Psalm xxii, 22, where the Messiah says to God Himself, "I will declare Thy name unto My brethren." Now we know that the name always stood for the qualities, so this was a prediction that Messiah would teach us the qualities of God.

And may I add two passages proving expectation beside those cited by Mr. Pitt. They are Luke ii, 32 and John iv, 25. Mr. Pitt said, "The Jews . . . appear never to have thought of Him as a Redeemer"; but a few chosen spirits appear to have expected Him to be a sufferer. See Luke ii, 35. I believe that myrrh was chosen as one of the gifts because the eastern sages knew that their Judean brethren were ignoring the predictions of Christ's sufferings, and were likely to be ultimately scandalized if they did not learn to associate Messiah with suffering. I was surprised that Mr. Pitt said so much about Moslem opinion. His reason may have been this, namely, to show that Moses' prediction was fulfilled by some other teacher, is practically the only way of meeting the Christian argument. Mr. Pitt well showed how futile the attempt is in the case of Mahomet. I beg to thank Mr. Pitt for a very useful paper.

REV. ARTHUR W. PAYNE was specially thankful for the paper in view of the menace of Islam.

He thought that it could not be said that the Jews were not looking for a Redeemer, for we read in Luke i, 68, of the words of Zacharias the father of John the Baptist: "Blessed be the Lord

God of Israel, for He hath visited and redeemed His people ”; and of Anna, who spake of Him, the child Jesus, “ to all them that looked for redemption in Jerusalem ” (Luke ii, to 38); and also to the two disciples on the way to Emmaus after the resurrection, when speaking to the risen, but unrecognized Lord, they said, “ But we trusted it had been He which should have redeemed Israel.”

One remembered that the Moslem body was still the most numerous in Palestine, and that over the Dome of the Rock in the Temple area, of which they are in possession, were the words in Arabic : “ Jesus is not the Son of God ; God had no Son ; God does not beget nor is begotten ”—this statement on the very spot where our Lord spoke of “ My House,” “ My Father’s House.”

Mr. R. DUNCAN said that “ whom the Lord knew face to face ” was the outstanding feature of similarity between Jesus of Nazareth and Moses. Pondering the scripture records, other points of likeness besides those Mr. Pitt has so interestingly brought out will be revealed. Malice of wicked kings would have cut off both Moses and Jesus in infancy ; had not sanctuary for both, under the care of their mothers, been found in Egypt. Meekness was a great characteristic of the man Moses, and Jesus said of Himself “ I am meek and lowly in heart.” Before Israel could enter into the Promised Land, it was necessary that Moses should die, and Jesus also had to taste death for every man before newness of life became possible for mankind. In the course of his farewell words to Israel, Moses said “ The Lord was displeased with me for your sakes,” ; and was it not for our sakes that Jesus was made a curse. (Gal. iii, 13).

A marked contrast between Jesus and Moses is apparent, however, in their teaching methods. Moses never had recourse to parable whereas it is said of Jesus, in his words to the people generally, “ without a parable spake He not unto them.” But is it not probable that mercy may have prompted the use of the parabolic form. Except to those who had ears to hear the meaning of the parables was hidden, and, in the case of the great multitude of the people, the responsibility for non-acceptance of the word was therefore lessened.

Dr. THIRTLE associated himself very heartily with the argument developed by the lecturer, and while accepting without question the position that the vision of Moses embraced the Person and work of Christ, pointed out as a curious fact, that the Samaritan people, whose sacred Scriptures are limited to the Pentateuch, had an outlook that did not include the majestic parts and functions of the Messiah. When the woman at the well of Sychar said: "I know that Messiah cometh," she seems to have accepted the Jewish expectation. As a fact, however, the Israelitish remnant in Samaria, to this day settled at Nablus, are able to conceive of no prophet beside Moses. Hence they await the Coming One, the *Tahéb*, in other words, *Moses himself*, who, though hidden in death, will (as they hold) at the end-time return and carry forward the larger purpose of God. This has been made clear from the publication of the *Asatir* or "Secrets of Moses," discovered and published by the learned Dr. Gaster a few years ago. If not definitely edifying, this point of view is curious, and yields support to the interpretation of our lecturer to-day, when holding that Moses had in mind an individual, one whom the Jewish people have anticipated as the Messiah, and whom Christians as a community accept as Prophet, Priest and King.

The Rev. Principal H. S. CURR said: Like the speakers who have preceded me, I have enjoyed Mr. Pitt's paper. I find myself in complete accord with all the contentions which he advances. It is indubitable that Our Lord is the pre-eminent Prophet of whom Moses spoke in his address to the Israelites, and which has been preserved for us in Deuteronomy. In thinking of Our Lord as the Prince of Prophets, it is well to remember that that does not render full justice to all that He was along these lines. The full significance of that statement will become more clear if the function of the prophet be recalled.

Fundamentally He is the spokesman of another Person. Thus Aaron is expressly described and defined in a famous passage (Exod. vii, 1) as the prophet of his brother Moses in the sense that he would utter eloquently and effectively the words put into his lips by his leader. Our Lord was, moreover, a prophet in a profounder sense than that. The spokesman of the Father He

unquestionably was, as the quotation from His teaching on the subject, as recorded in the Fourth Gospel, and cited by Mr. Pitt in his paper, proves, but surely He was much more. He spoke in His own authority, and by His own authority. He was no echo of anybody else. He prophesied in the sense that He foretold and forthtold, but in a very different way from Isaiah or Jeremiah. They could only repeat what God by His Holy Spirit had first said to them. Christ spoke on His Own account, and on His own initiative for He was Very God of Very God as well as Very Man of Very Man.

These observations show how far Christ is removed from Mohammed. The foundation of Islam is expressed in a sentence which is usually rendered: "There is one God, and Mohammed is God's apostle (prophet)." That statement embodies Mohammed's claim, which is a supreme example of self-deception, unconscious indeed, but profound. The Christian, however, would not feel that the status of the Divine Saviour has been adequately defined by being described as God's Prophet. Christ is all that; but He is a great deal more. Just as He is not only Priest but sacrifice as well, so too, He is both Prophet and prophecy in Himself. He declared that He Himself was the Truth, and that all who were of the truth hear His voice.

LECTURER'S REPLY.

The establishment of the Moslem religion in England is sufficient reason for attempting to refute the claim that Mahomet was the prophet spoken of by Moses. The Moslem Menace is a tremendous barrier to Christian Missions, and I think the Victoria Institute did well in making an opportunity for members to contribute their views on a great subject.

I am much encouraged by the warm and unanimous support of the paper.

775TH ORDINARY GENERAL MEETING,

HELD IN COMMITTEE ROOM B, THE CENTRAL HALL,
WESTMINSTER, S.W.1, ON MONDAY, FEBRUARY 19TH, 1934,

AT 4.30 P.M.

DR. JAMES W. THIRTLE, M.R.A.S., IN THE CHAIR.

The Minutes of the previous Meeting were read, confirmed, and signed, and the HON. SECRETARY announced the election of the Rev. Karl Johan Oye, F. J. Bromhead, Esq., and Sydney Herbert Flook, Esq., as Associates.

The CHAIRMAN then called on Mr. Thomas Fitzgerald to read his paper on "The Christian Faith the Final Criterion of Philosophy" (being the Langhorne Orchard Prize Essay, 1933).

*THE CHRISTIAN FAITH THE FINAL CRITERION
OF PHILOSOPHY.*

By THOMAS FITZGERALD, Esq.

(Langhorne-Orchard Prize Essay, 1933.)

ALL who are acquainted with the history and doctrines of the various schools of philosophy must have observed, that no school has spoken authoritatively and absolutely of the *beginning* of things, or of the *ultimate purpose and end of the universe*.

What is philosophy? The question may sound commonplace, yet in treating of this subject, it is necessary to define our terms. Mr. G. H. Lewes has stated that "Definitions form the basis of all philosophy,"* We, therefore, commence with the following definitions:—

- 1.—Philosophy consists of the accumulated thoughts of wise men seeking Truth.
- 2.—A philosopher is a wise man who, by study and reflection, seeks for Truth.

* *History of Philosophy.* Vol. I, 4th Ed., p. 236.

We do not here use the term *Christian philosophy*, for, as a term, it is open to serious objection.

The very substance of philosophy consists in the exercise of man's own unaided powers of thought and reason. Hence it has its origin in man, and, like water, will not rise above its source, while the term Christian, connotes what is *above* man and supposes a supernatural revelation. Here, too, there are terms we must define.

- 1.—A supernatural revelation we take to mean, that work of an all-wise Creator who, “at sundry times and in divers manners” throughout man's history, has made known what is Truth.
- 2.—A Christian, in the proper sense of the term, is one who belongs to Christ (Christ's man), and who becomes His disciple.
- 3.—A Christian philosopher is one who has received the Divine revelation of Truth, and reflects upon all else in the light of that revelation.

The subject is challenging in its character, for it is possible to be a wise man and a philosopher, yet not a Christian. Professor Tyndall has said that, “The physical philosopher, as such, must be a pure materialist.”* This is true if he is nothing more than a *physical philosopher*.

The title of the subject takes for granted, that there exists what is known as philosophy, and as philosophy, it is still without a final criterion, and the title also supposes that there is such a thing as the Christian Faith, which is the *final criterion* that philosophy needs.

G. H. Lewes, in his *History of Philosophy*, frequently refers to the ancient philosophers searching after a final criterion. Writing of Plato's Method, he says: “Up to his time there had been dogmatism and scepticism; he first saw the necessity of controlling dogmatism by scepticism, while the final conclusions of research must nevertheless be dogmatic and *based upon a criterion of certitude*” (italics ours).†

There is no evidence that this criterion of certitude was ever found, but on the contrary we have the admission of one in our own time, that he does not think we should expect to find it.

* See *Trans. Vict. Inst.*, viii, p. 87.

† Vol. I, 4th Ed., p. 243.

We quote from a paper read before the American Congress of Philosophy in 1926 :—

“ Many students of philosophy will be ready to acknowledge, as an actual fact that there are two conceptions which have become superannuated and almost foreign to the spirit of modern thought, two words which have lost all authority, and now even lend themselves either to suspicion or to derision : the conception of metaphysics, that is, of the research of a reality which should be above and beyond experience, and the conception of a systematic or final philosophy, that is, of *the construction of a closed system* which should *once for all* constrict reality, or the supreme reality, within its bounds ” (italics ours).*

After reading this, we wondered if some concrete system could be found, apart from metaphysics or a systematic philosophy, but no, we must go on in a state of flux, for he continues : “ There is no doubt that philosophy is opposed to the transcendent and consequently mythological conception of religion ; but since the effectual religiosity of man is, and has never been anything but, a confident effort towards purification and elevation, a striving, through joy and sorrow, towards truth and goodness, this modern and human philosophy admits within itself all the earnest and sincere religion which can be in the world. And since it does not consider reality as a fact, but as *a continuous doing, a perpetual creation*, it does not impose any limit to new forms either of life or thought. The sacred mystery is after all but this infinite creative power, this divine life of the universe ” (italics ours).

These extracts are a sample of the ideas which are broadcast among the masses to-day, and we are told that they show one of the characteristic directions in which thought is exploring.

* * * *

What are we Christians doing to direct the minds of our fellows toward Him who is the Way, the Truth and the Life ? For “ What is the chaff to the wheat ? saith the Lord ” (Jer. xxiii, 28).

We must continue to look upon philosophy as an unfinished product, and still engaging man's thoughts in his search for

* See *An Introduction to Philosophy*, by Leonard Russell, p. 78. Mr. Russell quoted these extracts in a series of wireless talks, which were published afterwards as one of an inexpensive popular series of books, which meet a widespread demand from working-class students.

Truth, therefore to ally the term Christian with it, only causes a confusion of ideas, and makes two things, which are distinct in aim and character, to appear as one. Even those who are wedded to the idea of a Christian philosophy, appear to be uncertain of their ground, for while referring to the conflicts, in which a Christian philosophy would be bound to engage, with modern theories of knowledge, it is urged that, "First of all, and above all, we must take seriously the New Testament doctrine of the self-revelation of God to the individual.

"It is better to hold this fast, in face of all sorts of difficulties, even as a shipwrecked man may cling to a rock from which the waves almost detach his hands, than to snatch at compromising theories and alien support. There are many philosophies which, in respect of their best elements and their ideals, *will fit into Christianity: there is no philosophy into which Christianity will fit*"* (italics ours).

The man who starts with the New Testament doctrine of the self-revelation of God to the individual, does so, not on philosophical grounds, but on the ground of *Faith*. It has been truly said that you cannot "get up by means of reason, yet when you come down with the lamp of Faith into the sphere of reason, you perceive some truths that you saw not before."†

The uncertainties of scientific and philosophical theories which history records, render it impossible, even were it desirable, to attempt the formulation of the great doctrines of Christianity in terms of modern thought, especially when we are told that "at bottom philosophy is but the direct expression of the mind of the generation that produces it."‡

The attempts of the Early Fathers to meet the demands of philosophy; the Scholastic Theology of the Middle Ages; and in modern times the endeavours to reconcile the Bible and Science, have largely ended in failure, causing damage to the testimony of Christianity, without appeasing the hostility of the enemies of the Truth.

When the New Testament canon was closed, the doctrines of Christianity were fixed for all time. The truths which Christ and His apostles taught were enshrined in those sacred writings, and were to become the infallible guide of the Church's life and

* See *Trans. Vict. Inst.*, xliii, p. 67.

† "Rabbi" Duncan: *Colloquia Peripatetica*; p. 70.

‡ *Trans. Vict. Inst.*, xliii, p. 75.

witness, supported by the presence and power of the Holy Spirit sent down from heaven at Pentecost.

Human philosophy cannot help us in the matter of a Divine revelation. In a reference made to Shelley's *Prometheus Unbound*, picturing the fall of God and the resulting freedom and triumph of mankind, the Rev. S. C. Carpenter stated that "Shelley's 'humanism' was very far from being the same thing as Christianity. But there was in Shelley's creed little that Christianity has not been able to absorb, and find congenial to its best self."

Now we hold that such a view of Shelley's philosophy is derogatory to Christianity, for Christianity does not absorb anything which the human mind produces, and it has no need to do so. However, the writer practically contradicts his own view of Shelley's doctrine, for he adds: "Some people say that Christians always first denounce, and then pretend that they believed it all the time. What Christians really affirm is, not that either they or their forefathers believed it all the time, but that, *if it is true, it was there all the time* (italics ours). Christianity is always a much larger thing than any generation ever knows at the time."*

We recur to a statement made earlier in this paper. We stated that the term *Christian Philosophy* was open to serious objection, and for this we have offered reasons. While, however, some may object to the term, there are others who hold that we are justified in speaking of a *Divine Philosophy*, and it may therefore be worth while to examine the term, in order to discover, if there is such a thing, what constitutes a Divine Philosophy. There could be no incongruity in the idea of God having His own philosophy, but it would be absolutely essential to affirm that it must be of an infinitely higher order than man's, and that its object, unlike human philosophy which *seeks* for Truth, would be to *reveal* what is the Truth.

We may confidently suppose that, if man, the creature, is endowed with a mind by which he reflects, then God, the Creator of man, possesses powers of thought and volition in an infinite degree. One has truly said, "We may paraphrase the words of the Psalmist: 'He that made the human intellect, shall He not think?' " (See Ps. xciv, 9.)

* *Daily Telegraph*, December 5th, 1932.

We have also the words of the Lord recorded by the prophet :
 “ For my counsels are not as your counsels, nor are my ways as
 your ways, saith the Lord. But as the heaven is distant from
 the earth, so is my way distant from your ways, and your
 thoughts from my mind.”*

The true philosopher will never neglect any source of informa-
 tion and will inquire, “ Has God made known to man this
 Divine Philosophy ? ” “ In what form has it come ? ” “ Is
 man so constituted that he is able to apprehend it ? ”

* * * *

Philosophy and natural science *assume* the existence of
 material being, as the starting-point of their labours, but
how it came into existence they are utterly unable to inform us,
 and they cannot yet tell us the *real nature* of the substance of
 which material being consists.

Let the Christian man lay firm hold of these two facts, and
 he need not fear the attacks on his religion either from philo-
 sophers or scientists. The origin of existence surpasses all the
 powers of human conception, and when learned men pretend
 to tell us that they are able to explain the mystery of the origin
 of the world, we are justified in asking them to explain to us,
 first of all, the mystery of their own being.

The fact is, that man cannot deny his existence, but after
 centuries of research he is no nearer the solution of the mystery
 of his own being than were the wise men of old. The *double*
 mystery of generation still remains unfathomable, as it did when
 Solomon wrote : “ As thou knowest not what is the way of the
 spirit, nor how the bones do grow in the womb of her that is
 with child, even so thou knowest not the works of God who
 maketh all.”

We know not the connection of the human spirit with the
 growth of the bones of the human embryo. We know not how
 the spirit nor even the flesh of man comes into being. Some
 things which man has discovered, such as the lungs of the foetus
 in the womb which are of no immediate use, without doubt point
 to the fact that many parts of the human constitution exist
 “ latently and potentially ” long before they come forth, and that
 they form part of a prospective arrangement in view of a destina-

* See *Isa.* lv, 8, 9. Eng. Trans. of Sept. Version (Bagster).

tion not yet reached. "The works of the Lord are great, sought out of all them that have pleasure therein." (Ps. cxi, 2).

The philosopher and the scientist, as we have said, *assume* the existence of matter, and the Christian, who believes in revelation, does the same. The world is a fact which they all in common accept. So far then there is no conflict, and when each pursues his own investigations, for a Christian may be a philosopher and a scientist, they all discover not only a material universe, but life which animates, and laws which govern, within this region of sensible reality.

When, however, the question is raised, whence this matter, the laws that govern it, and the life that animates no man, whether he be philosopher, scientist, or a believer in revelation, can *from his own resources* tell us the origin of these things. Should the scientist offer us a theory of the origin of all things, then he at once leaves the region of sensible reality and passes into that of either speculation or faith. At this point natural science ceases to be natural science, and becomes either philosophy or religion. In other words, we enter the realm of mystery.

Science, as science, and human philosophy, as philosophy are dependent upon something outside of themselves to teach man the true origin of things. The Christian holds that this "something" is Divine revelation, which is discovered to faith by Divine philosophy. "Men cannot escape from mystery by rejecting revelation."

The conflict between "Modern Thought" and Christianity is one between two opposite views of the world. Both views rely upon outside sources, and each appeals to an authority they accept as a criterion, which means that the Christian's faith is in *Divine philosophy*, and the votary of "Modern Thought" puts his faith in *human philosophy*. There is no middle path.

Here, then, are two opposite views. We have reached the parting of the ways. Human philosophy has nothing certain to offer us. It cannot tell us whence we came, nor whither we are going. When we approach "the dark valley," it has no light to cast "amid th'encircling gloom."

* * * * *

For our part our choice is made. We turn to that "True Light" for enlightenment and instruction, which shined upon the world in its full splendour nearly two thousand years ago, and which had long been expected throughout all the East, so that

when the unusual star did show itself in the heavens, the Magi sped to Jerusalem and found Him, whose name is called Immanuel—God with us—and who has brought the final communication of the Divine thoughts to man. “God, who at sundry times and in divers manners spake in time past unto the fathers by the prophets, hath in these last days spoken unto us by His Son” (Heb. i, 1, 2).

To elaborate the subject of this essay would demand the work of a lifetime, and would form a whole library. Philosophy, how vast the range of thought! The Christian Faith, how transcendent in importance, how glorious in its character, how momentous the issues! We can attempt to indicate only some of the salient points in a theme of such magnitude.

We have taken a general survey of the ground occupied by human philosophy and we have noticed the admission that it has failed to discover a “criterion of certitude.” We have also called attention to what we have termed Divine Philosophy, which surpasses all that is human, and which has culminated in the Christian Faith.

It is accepted as an axiom, that a true science will take cognizance of *every fact* that bears on the subject in hand, and will not confine itself to those facts only which serve to bolster up a preconceived notion.

There are two facts which cannot be denied, the first, the fact of the Jewish race, and the second, the fact of the Christian Church.

To the first, a volume of sacred writings was committed, called the Old Testament. To the second, a volume of sacred writings has been committed, called the New Testament, the latter, however, having the closest connection with the former.

The Jews erred in supposing that the Old Testament was final, and that God had no further communications to add to their sacred writings. They were rigid, even to fanaticism, as to the eternal permanency of their ritual observances. Consequently, they placed a peculiar value on the books from which they were derived, that is, the Law written by Moses. This rigid adherence to outward ceremonial stands out prominently in the New Testament, where is recorded the conflict between Judaism and Christianity.

It is a matter of amazement to us, that leaders of Jewish thought are not more actively engaged in defending their sacred writings against the attacks of German critics, for to their race

“ were committed the oracles of God.” About the year 1840, some hope of their doing so was expected from the “ Reformed Movement ” among the Jews,* but the defence of the Old Testament has been left mainly to Christians.

As to the New Testament, Christendom has erred in supposing that those writings are *not* final, and have introduced Patristical Tradition to be received with a pious affection and reverence, “ EQUAL ” to that with which we receive the Scriptures, while many scientists and philosophers claim that by their own unaided researches, they can dispense with both Old and New Testaments altogether, and even forge their actual and supposed results into weapons for attacking the Scriptures.

We have arrived then, at this position, that there are two undeniable facts, the Jewish race and the Christian Church. There exists an ancient literature, from which they draw their guiding principles, and their warrant for present conduct and future prospects.

Both Jews and Christians have passed through the severest fires of persecution, and no literature has ever been subjected to such close scrutiny ; such minute criticism and vile abuse at the hands of its enemies, or has been so mishandled and misrepresented by its friends, as those writings.

How can all this be explained ? Here are solid facts, but the scientist cannot account for them, nor can the philosopher explain them. We cannot be surprised then, if the material universe remains an unsolved problem to both scientist and philosopher. We have said that our choice is made, therefore we cannot allow the position we are to occupy to be pointed out to us by others, nor can we permit them to dictate as to what weapons we should use in our conflict for the Truth. We turn, then, to those sacred volumes in which Divine Philosophy is communicated and unfolded for man’s instruction, and we find there what is worthy of God, and what is suited to the condition and nature of man.

In the Old Testament we find the history and explanation of a promised *land*, a chosen *people* and a sacred *book*. All three—Palestine, the Jews, and the Old Testament—exist to this day, witnessing to the truth of this history, and pointing back to their origin. There is a unity of thought pervading the whole.

* These expectations, alone, were not realized, and the movement was diverted to Modernism, instead of leading to faith in Christ.

When we open the New Testament, the same three features are there. The same land, Palestine; the same people, the Jews; the same book in evidence—the Old Testament—and being searched diligently for an explanation of the mysterious and wonderful event, which brought wise men from the East to Jerusalem, and which became the occasion of the sublimest utterances in song, rising above all themes that human thought has ever conceived, and excelling in beauty of expression all that was ever uttered by human lips. The searchers found that Christ should be born; “In Bethlehem of Judæa: for thus it is written by the prophet, And thou Bethlehem, in the land of Juda, art not the least among the princes of Juda: for out of thee shall come a Governor, that shall rule my people Israel (Matt. ii, 5, 6).

But we have something more, for the New Testament goes on to record the displacing of Judaism, and the origin and development of the *Christian Church*. Therein is recorded also the *present message* to be proclaimed by the Church among all nations. The principles and practices are plainly set forth, which Christians are to observe in their daily conduct and order of worship. The writings of the New Testament confirm, and show the fulfilment of the foreshadowings of the Old Testament, and enshrine in permanent form the Christian Faith.

It cannot be denied that the birth, life, death, resurrection and ascension of Christ, must needs take place as historical events, before there could be formulated what is termed The Christian Faith. The Four Gospels and the Acts of the Apostles record the historical facts; the Epistles confirm those historical facts, and embody the doctrines which are based upon those facts, with the added communications of Divine Philosophy for the fuller enlightenment of men. The Revelation, or Apocalypse, brings the whole to a fitting close by revealing to St. John, in visible forms, the future glory of Christ's Kingdom; the glory of His saints, and the future state of the righteous and the wicked. As in the Old Testament, so in the New Testament, a unity of thought pervades the whole, which, merely from the human standpoint, appeals to every true philosopher.

We may add here, that as Palestine; the Jews; the Old Testament; abide as witnesses to-day, so also the Christian Church abides; the Message to the Nations is still preached; and the New Testament survives all the attacks brought against it by the enemies of Truth.

Now we maintain that what the ancients sought and what the moderns proclaim as unattainable, has been communicated by the unfoldings of Divine Philosophy in the Old and New Testaments.

The student of philosophy has first to collect his facts before he can build up his system. In the realm of natural science, the materials are daily increasing, and new laws are being discovered, so that no finality is possible. But the Christian has this advantage, that the accumulation of materials is at an end. The Divine Philosophy has been communicated in a complete and final form. The period of the progressive unfoldings of Divine Truth is passed, and the task set before him is to seek by the aid of the Holy Spirit a better and fuller understanding of what is written.

“ O Father, Son, and Spirit, send
 Us increase from above ;
 Enlarge, expand all Christian souls
 To comprehend Thy love ;
 And make us all go on to know,
 With nobler powers conferred ;
 The Lord hath yet more light and truth
 To break forth from His Word.”

There is urgent need to-day for a more careful and diligent study of the Bible, but this does not mean that we are to cease our researches into the secrets of the Natural World, nor to allow the workings of our minds to become dormant. We shall be able to carry on our studies and researches more intelligently and profitably by the light of Divine Truth. “In Thy light shall we see light.”

* * * *

While Christianity is an entirely new fact, its roots are deeply embedded in the Old Testament, and its central and predominant theme is Christ. We use “fact” in the singular, because Christianity is summed up in the fact of Christ, as one has happily said, “Christianity is Christ.”

God reveals His *mind* in the Scriptures—*Himself* in His Son—and Christ is The Truth, and Christ is God. To Thomas our Lord said, “I am the way, the truth, and the life: no man cometh unto the Father, but by Me.” To Philip, He said, “he that hath seen Me, hath seen the Father” (John xiv, 6, 9).

We have said that it is impossible to elaborate the subject of this paper, but we would submit that what has here been brought under review, warrants the conclusion that man is now provided with a final criterion by which all human thought must be tested. One word seems appropriate by which the Christian Revelation may be characterized, that is, the word Finality, and for the following reasons.

1.—The Christian Revelation is *final* in its relation to THE TIME-STATE. It was “the fulness of the time”—a fixed, appointed period in the Divine economy—when God sent forth His Son (Gal. iv, 4). The condition which man had reached in his estrangement from God, and the darkness of his mind, constituted the circumstances which made the introduction of the Mosaic economy so evidently a Divinely appointed communication of the Truth to man.

In a similar way the state of mankind ; the Jewish expectancy of a Messiah, and the expectation of a Deliverer among the heathen, with many other facts well known to students of language and history, constituted the very circumstances on the human side, which coincided with “the fulness of the time” on the Divine side. There is, what has been happily termed “a philosophy of the dispensations” which, we think, accounts for the frequent use of the Greek word *aiōnios* in the New Testament. No other word in that language could combine the ideas of Time-events and human responsibility being related to God’s eternal counsels and to eternal consequences, even as the same word is applied to the results of Christ’s redemptive work and to the spiritual gifts bestowed on all who believe in Him.

When men talk and write of “the Christian belief that the Eternal has, as such, entered time” and of “age-abiding life” instead of eternal life, we doubt the accuracy of such statements, for they suggest the thought of “limitation,” an objectionable term when applied to the Son of God, and in the case of the gift of life a denial of its true character, which is not so much its *duration*, but of an abiding *state* or *condition* of life with God.

Divine Revelation unfolds the mystery that Time is brought into relation with the Eternal ; that the finite is embraced in the infinite, or in other words the greater includes the less. St. Paul, when making known the true God to the Athenians, spoke of Him as the One in Whom “We live and move and

have our being." "In Him" connotes the finite within the infinite, yet not identical.

2.—The Christian Revelation is *final* in relation to THE PERSON—THE REVEALER—"God, Who at sundry times and in divers manners spake in time past unto the fathers by the prophets, hath in these last days spoken unto us by His Son" (Heb. i, 1, 2).

God has made known the mystery and good pleasure of His will to gather together in one ("to head up," see Greek) all things in Christ, both which are in heaven, and which are on earth; even in him (Eph. i, 9, 10). Christ, the Son of God, supersedes all others, but none shall supersede Him. He shares none of His unique offices and titles with another. He alone is Lord. He alone is Head of the mystical body—The Church. He is the Last Adam, and He alone the High Priest of His redeemed family.

3.—The Christian Revelation is *final* in relation to MAN'S SALVATION.

(1) The sacrifices under the Mosaic Law are ended, on account of the offering of the body of Jesus Christ, once for all (Heb. x, 5—10). The Saviour's last words on the Cross were, "It is finished."

(2) The Scripture declares there is salvation in no other than Christ (Acts iv, 12), and again, "by Him all that believe are justified from all things, from which ye could not be justified by the law of Moses" (Acts xiii, 39).

4.—The Christian Revelation is *final* because it supplies a true knowledge as to the questions of Origins and of Final Causes. Man has brought forward nothing in the course of his researches to shake the doctrines of The Christian Faith regarding the being of God and of man; the creation of the universe; the progressive unfoldings of Divine Truth; the probation of man and the final destiny of the righteous and the wicked.

While philosophy is still engaged in speculative thought, this poor world is groaning under the increasing burdens of modern civilization. Statesmen are faced with social problems which defy solution; the government of the peoples and the maintenance of civil order become more difficult; and beneath the sins, the sorrows and the restlessness of humanity, there lies deep in the human heart, as may be traced in the past history of mankind, the longing for the appearance of a Deliverer.

The Christian Faith holds out the hope to the Jew that his Messiah may be expected, and to the nations that the Christ, Whom men despised and rejected will return in power and great glory (Matt. xxiv, 30 ; Rev. i, 7).

One of the Fathers, who had read all that philosophers could tell him, said, "but none of them ever said, what Jesus said, 'Come unto me, all ye that labour and are heavy laden, and I will give you rest.'" He came, and he found rest.

The Christian Faith is indeed the Final Criterion of Philosophy, for it leads men to find Him, who is the Alpha and the Omega, the Beginning and the End, the First and the Last.

DISCUSSION.

The Chairman (Dr. THIRTLE) said : We have listened to-day to an essay which last year gained the prize awarded in connection with the Langhorne-Orchard Competition. This competition, as some will know, recalls the name and life of the late Professor Langhorne-Orchard, a Christian scholar of conspicuous attainments in the fields of science and philosophy, and one who was for many years a Member of Council of the Victoria Institute, likewise the author of an essay of great value which carried off the Gunning Prize a quarter of a century ago.

The Langhorne-Orchard foundation, set up in honour of a great friend of the Institute, has a well-defined *evidential* purpose, and the essay to which we have listened has supplied proof that our lecturer appreciates the purpose and approves the design of the foundation.

Whatever the avowed object of the Langhorne-Orchard Competition, there can be no question that the prize-man had before him a clear object, and has easily proved himself able to affirm and demonstrate a great and vital truth. On the strength of principles well defined and in pursuance of forms of truth that are widely accepted, Mr. Fitzgerald has vindicated the Christian faith, as supplying a Divine philosophy, and has found the same to be set forth in Scripture revelation and justified in a godly life.

In the thought of our day human philosophy asserts a large place ; and if we would counter such philosophy, with its various and evident deficiencies, in the hope of finding a place for a Divine philosophy—

a philosophy based on unchanging facts and principles—we are, so to say, shut up to the study of the Sacred Scriptures, otherwise “the oracles of God.” This, assuredly, is a consideration that stands out boldly in the conclusions of our Lecturer this afternoon. For such conclusions we do well to return thanks in cordial terms.

Mr. Fitzgerald has shown that revealed truth depends in a vital degree upon the Old and New Testaments, as they set forth the ways and purposes of God, and, further, as they contain records, authentic and adequate, of undertakings in grace for the present ennobling and the future salvation of men. The facts and principles yield the philosophy which the Faith of Christ supplies. In the nature of things many aspects of the theme have been left on one side, but in any case the object of the Essay will be attained if Members and Associates proceed to explore the various avenues of thought that tend to establish philosophic thought in the terms of Christian truth. Let us be assured that, according as we appreciate the Christian faith, we shall find our investigations to be safeguarded from error and folly; and shall we not, all the while, do well to cherish the conviction that the Christian faith furnishes the final criterion of Philosophy, as our Lecturer has shown so clearly this afternoon?

It gives me pleasure to move that the thanks of the meeting be accorded to the Lecturer; and having been duly recorded, the resolution was carried with acclamation.

Mr. WILLIAM HOSTE, B.A., while thanking the lecturer for his paper, recalled a remark of a well-known Christian American writer—Philip Mauro, who before his conversion to Christ was a diligent student of the great philosophic systems. Later, Mr. Mauro defined Philosophy, as he had known it, as an attempt of the human mind to explain the universe without the intervention of a supernatural power. Not a bad instance of this is the philosophy of evolution, which is a philosophy in this sense, rather than a scientific theory, not being based on proved facts. To go to philosophy to find truth seems like extracting gold from sea-water; you might perhaps find a grain in an Ocean, but it would not pay initial expenses. Philosophy seeks to extract truth from the depths of the human mind, but the results are either extremely elementary, of the *Cogito, ergo sum*

order. (It hardly seems worth while spending a considerable period of your life, proving that you exist, or are contradictory and inconclusive.) I am glad the lecturer has not attempted to give us an amalgam of human philosophy and Divine Revelation. It is not a choice between this latter and some system which professes to offer any solution as to origins and futures. The only possible alternative for thinking men is agnosticism—reverent or otherwise but which leaves us spiritual bankrupts and perfectly hopeless. On the other hand, we hear Christ calling to us: "I am the light of the world, he that followeth Me shall not walk in darkness, but shall have the light of life," and they who obey the call find it is not in vain.

Mr. GEORGE BREWER said:—Philosophy has been briefly described as the application of pure thought to the explanation of things. Mr. Fitzgerald's definition as the accumulated thoughts of wise men searching after truth, by study and reflection, gives, I think, a better idea of its scope. However, as the term is also used to include speculative thought based on human experience, it is evident that nothing should be omitted which comes within the range of our own experience or the testimony of others.

Philosophy which is only materialistic, and shuts out revelation and the experience which follows the reception of revelation, must necessarily be limited in its outlook, and with regard to origin and destiny will lead nowhere. The man who confines himself to the materialistic realm must be content to flounder in the morass of human speculation, without help or guidance as to past or future.

While it is true that by searching man cannot find out God (Job xi, 7) or discover the work that He maketh from the beginning to the end (Eccles. iii, 11), yet the Apostle Paul in his epistle to the Rom. (i, 20) reminds us that "the invisible things since the creation of the earth are clearly seen, being understood by the things that are made, even His eternal power and Godhead; so that men are without excuse," for "the heavens declare the glory of God and the firmament showeth His handiwork" (Psalm xix, 1).

I think we must recognize a vast distinction between ancient Greek philosophy, much of which was a sincere search after truth, before the Light of the World had come upon the scene, and the Modern philosophy of Evolution, the acceptance of which is

justified on the ground of its being the only alternative to special creation. As the opener has pointed out, the only true philosophy is that which, while exploring all the results of human experience, past and present, interprets such results in the light of God's Word.

The origin of the marvellous triunity upon which the material Universe is constructed as well as the constitution of man, is revealed in the Old Testament but more clearly in the New Testament, and especially by our Lord Himself as the Triune God, Eternal Father, Son and Holy Spirit. The Divine Philosophy is a revelation from God the Father by the Holy Spirit through the inspired Word, that by and for the Eternal Son were all things created in heaven and in earth, visible and invisible; that He is before all things, and by Him all things consist. While God has made foolish the wisdom of this world, to those who rest upon the all-atoning sacrifice of Christ, He is made "wisdom and righteousness and sanctification and redemption." "O the depth of the riches both of the wisdom and knowledge of God! How unsearchable are His judgments and His ways past finding out!" (Rom. xi, 33.)

LECTURER'S REPLY.

The success of my paper, and the cordial reception given to the reading of it this afternoon have been most gratifying, and I offer my warm thanks to the Chairman and to all present for their appreciation of this attempt to vindicate the demands which the Christian Faith makes upon man's highest powers of thought, and upon his most serious attention.

To what has been said in the discussion, I would like to add that I feel very strongly that the Victoria Institute has a unique opportunity, and is fitted by its constitution, to present to the world a powerful witness as to the moral and spiritual resources of the Christian Faith, which are Divinely capable of meeting the grave conditions of a tottering civilization.

776TH ORDINARY GENERAL MEETING,

HELD IN COMMITTEE ROOM B, THE CENTRAL HALL,
WESTMINSTER, S.W.1, ON MONDAY, MARCH 12TH, 1934,
AT 4.30 P.M.

THE REV. J. CHALMERS LYON IN THE CHAIR.

The Minutes of the previous Meeting were read, confirmed, and signed, and the HON. SECRETARY announced the following elections :—R. E. Murray, Esq., M.A., and Dr. Hale Amos as Members, and the Rev. Principal John McLeod and Harry Wilson, Esq., A.M., as Associates.

After reading Minutes of February 19th, the HON. SECRETARY, having made reference to the regrettable illness of Dr. J. W. Thirtle, M.A., M.R.A.S., Vice-President and Chairman of Council, read out to the meeting a resolution of condolence and of appreciation that had been passed unanimously by the Council that afternoon, as follows :—

“ That this Council desires, on its own behalf and on behalf of the President, Sir Ambrose Fleming, to express its sincere sympathy with Dr. Thirtle in his illness, and its earnest hope that he will be speedily restored to health and strength; and it further desires to take this opportunity of placing on record its deep appreciation of the invaluable services Dr. Thirtle has rendered to the Institute for so many years.”

On being invited to support the Council's resolution, the large audience immediately endorsed it, with many expressions of sympathy.

The CHAIRMAN then intimating that, being at the time in Palestine, Dr. Christie would not be present at the meeting, invited the Rev. F. J. Exley, of the British Society for the Propagation of the Gospel among the Jews, to receive the Schofield Memorial Award for transmission to Dr. Christie. The cheque for ten pounds was then handed to Mr. Exley, with the warm thanks of the Society, amid applause.

The CHAIRMAN then called upon Mr. Exley to read Dr. Christie's paper on “ The Jewish Immigrant Population of Palestine.”

THE JEWISH IMMIGRANT POPULATION OF PALESTINE.

By Rev. W. M. CHRISTIE, D.D., Mount Carmel Bible School,
Haifa, Palestine.

(*Schofield Memorial Lecture.*)

PALESTINE UNIQUE IN POPULATION, RELIGION AND MENTALITIES.

OVER a dozen years have now passed since Jewish immigration into Palestine commenced, and during that time it has been a subject of much discussion in Parliament, and in the League of Nations, while regrettable incidents have

occurred in the land itself. Now the time seems ripe for a review of the conditions, to estimate the value of the opposition to the immigration movement, to study the characteristics of the incomers, and to judge of the success or failure of the Mandated Government.

In considering these questions, we must remember that Palestine is in no sense on a par with any other land on earth. It has never had a compact population, nor a national history of any kind, nor has there been a local or racial patriotism since the beginning of the Christian era. Ask a man his "nationality" and he invariably answers by giving you his religious connection, and this was the meaning of the word for long years in the Turkish language and law. Nor was there, except in the rarest cases a family tradition to which a man could look back, for family names were of recent origin, and few could count beyond their grandfather.

Then Palestine is the Holy Land of three religions—Judaism, Christianity, and Islam—each broken up into various sections. In a sense the Moslems ruled the country for 1,300 years, but the control was invariably from the outside, and the land was never in the smallest degree autonomous. And as between one religion and another there was a minimum of equity. The Moslem would never admit that the Jew or the Christian was his equal before either God or the law. In the law-courts the testimony of a single Moslem rendered invalid that given by any number of non-Moslems, and the Turkish government would never, unless under foreign pressure, punish a Moslem for the murder of a Jew or a Christian, and even in such cases the death sentence was carried out "for breaking the Sultan's law." All the conditions created sectional interests, and sectional claims of right, and they have come down to our rulers to-day, with all their innumerable intricacies and difficulties. At the close of the War the attempt was made to raise the cry of "self determination." That may suggest a beautiful thought when applied to what were compact, oppressed, small nationalities in Europe, but where can it come in when you have to deal with nomad Bedouin, with city and peasant Moslems conflicting in their interests, with a native Christian population occupying the land since Israelitish days, and with a Jewish section, members of which were in the Holy Cities before the days of Islam? That this small section of the world should be controlled by a strong and righteous outside power is the best for

the welfare of all its peoples, and up to the present time Great Britain has done the best possible by its wise decrees, and by its choice of discreet and just representatives.

PRINCIPLES OF IMMIGRANT ADMISSION.

In dealing with immigrants there had to be the most careful consideration of the classes and the numbers to be admitted, and modifications had to be made as necessity demanded. The land and the people had to be considered from every point of view, questions of desirables and undesirables had to be weighed, conditions of possible employment or unemployment among Jews and non-Jews, relations to housing questions, and development along the whole line, in the interests of all classes, demanded exact thought and clear vision. At the commencement the Jewish colonies had in part to be repopulated, great stretches of land in a state of desolation had to be reclaimed and cultivated, and accordingly an agricultural and artisan class was the best to meet the first necessities. Many candidates of various classes had to be refused, and there was from time to time the outcry that Britain was not fulfilling her obligations. We remember a typical case with which we had to do in Glasgow. A middle-aged Jew sent in his application, but the reply came back, "We want peasants, but you would go as a speculator, and a money-lender; your time has not yet come." Where doubts existed as to definite employment being secured, guarantees had to be forthcoming that immigrants would not become dependent on the State. These had to be very strict, and were applied equally to British subjects and to Polish and Rumanian Jews. We may illustrate by a case: The daughter of a British subject, of good position, and herself born in Palestine, desired to rejoin her parents, but all had to be done according to rule, the schedules had to be filled up, the financial position stated, and the document signed by two others, who guaranteed the facts.

In this connection there arises the question of a considerable number of Jews, who each year came in as tourists, with a three-months' permit, and then simply stayed on. These cases are, of course, irregular, and when there has been firm dealing with such of them as were undesirable, there has been talk of harshness. But in the case of desirable incomers there was generally the opportunity of regularizing the position before the close of the three-months' period, and the securing of a permanent

permit. This was the method employed by the missions for a time in virtue of its convenience, in the appointment of teachers. They were, however, requested to alter their method, and they did so. One more exception to regularity seems to be the open door between Transjordan and Palestine, and through this multitudes of Arab Moslems have come in without either passport or permit. It is well to remember this, when irregularities on the other side are emphasized.

CLASSES OF JEWISH IMMIGRANTS DURING 1933.

A consideration of the statistics of the past year in the matter of their numbers and characteristic classes will sufficiently illustrate how the regulations are being carried through, and give a pretty fair picture of the living, working, Jewish population. From the 1st of December, 1932, to the 30th of November, 1933, the total number of Jews entering the country for permanent residence is given at 29,858, but this includes nearly 3,000 dependents of former immigrants who are now settled on the land. These being deducted, the statistics then give two-thirds of the fresh immigrant population, as coming to employment already guaranteed them. During the twelve months indicated, there entered the country on this condition, 8,502 men and 2,628 women, the latter being also workers, and with the two classes, 6,282 dependents, in all 17,412. Next in numbers to the actual workers we have the capitalists. In their case, apart from abnormal circumstances, any man in possession of £1,000, with practical ability to use it, is easily admitted, with wife and children. During the past year there have been admitted of this class 3,033, with 3,111 dependents. That means the bringing in of well over three million pounds of fresh capital in one year. The procedure in the case of this class is that they produce their credentials to a British Consul, and forthwith receive their permit; but some prefer to come on the three-months' tourist permit, to view the prospects, before they make the final venture, and if satisfied they apply, before the lapse of the stated period, and receive the necessary permit, but should they allow the "tourist permit" to lapse, prolongation is refused, and they must, in Europe, begin all over again. Professional men with £500, and skilled artisans with a capital of £250, ready to take up some useful service to the community, find no difficulty in

securing permits. The numbers of professional men is comparatively few, but in one week, a few months ago, 45 doctors and 23 midwives received licences to practise. Of artisans with capital, there were last year 122, and they had 200 dependents. There is also provision for the admission of single young men, able-bodied, and fit to earn £4 per month, but they numbered only 80 last year. Of course, they had no dependents. A small number of immigrants are counted to the *religieuses*, and their dependents hardly exceed their own numbers. They are rabbis, or settlers in the Holy Cities. Finally, there came into the land last year just over 200 students, but they, too, must give evidence of being sufficiently supported, and of being ready to leave the country, if required to do so, when their studies are finished.

UNIVERSAL WILLINGNESS TO LABOUR AND TO SERVE.

Those who have known the Jew as a denizen of the ghettos of Europe, or as an indweller of the Holy Cities in Palestine, can have but a low opinion of him as a man either willing or fit for active or strenuous service to his fellow-men. In our early days the Palestinian city Jews were "the monks of Judaism," living on *Hahukah*, a system of alms, which was begun in 1601. It was degrading, and, after it began, the great scholars of the sixteenth century vanished. The recipients, besides reading and praying, generally kept little shops, or wrought as tinsmiths, tailors or shoemakers, all engaged only in sedentary occupations. A wonderful change, however, took place in the early "nineties." Numbers of the young men in these ghettos were invited to the newly started colonies, and got employment in fieldwork. They enjoyed it, and developed a sturdy, independent manhood. And the same thing has taken place in the case of the thousands who have come from Polish, Russian and Rumanian ghettos. Doubts were expressed as to their being able to change from the old life of generations to conditions absolutely new, but they have nobly risen to the occasion.

To the earlier immigrants, 1920 onward, there fell the lot, of reclaiming great stretches of waste lands. The Jews had acquired a good deal of "the desolations of many generations." There were marshes, fever haunted and malaria breeding, to be turned into fruitful fields. But any real profit lay years ahead, and it was certain these toilers would never see it; nevertheless,

under summer suns and winter rains, often suffering fever heat, they toiled on, and when there were questions of discomfort, risk and death (malaria claiming them one after another as its own), the singleness of their purpose and nobility was manifested. "Somebody must do this work, it is not unlikely that we shall go under, but the next generation will get the blessing, and we are helping to 'rebuild Zion.'"

And for the great majority nothing comes amiss. A young doctor toils on as a day labourer, at road-making, with a crowd of Jewish navvies, drawn from all classes. He saves £2 per month, with which to buy materials, and then proceeds to build a small house or "shanty" with his own hands, seeking at the same time to mend the routes of the land, to better his fellow-men, and to raise his own position. A doctor of philosophy gets admission as an artisan, opens a cobbler's shop in one of the smaller colonies, and works contentedly for years. The headmistress of an academy in Prague, speaking German, French and several Slavonic languages to perfection (and now Hebrew also), serves in an elementary school. She suffers from malaria, as she lacks the wherewithal to purchase a mosquito curtain. Few indeed are the immigrants that are not making material sacrifices of some kind, and all are willing to labour on in the interests of the ideal before them. The thinking, level-headed Zionist is a most desirable acquisition, and he has already done much for the welfare of the country. He ought to be encouraged and supported, for he is changing wild wastes into a paradise.

A STEADILY ADVANCING PROSPERITY.

From the earliest days the colonists were able to compete with the Arabs in the matter of vegetables, garden produce, and poultry farming; indeed, in any occupation that allowed an occasional relaxation, but in the raising of fields of wheat, and in the heavier kinds of farm-work, they came short. But all that has now passed away, and they now stand in every way on an equality with the earlier indwellers. Scientific methods have been applied, several of the colonies have agricultural and poultry-rearing schools, and accordingly intelligent work is done with the best results. And all this has been a blessing to the Arab, who is gradually abandoning the wooden ploughs in use since Abraham's time, and taking to modern methods, and schools of training, too.

And the power of producing goes "from strength to strength." To the simpler agricultural employments there has been added an increasing fruit production, oranges of various kinds, grape-fruit, apricots, and other such things, and their export is already running into millions of boxes per annum, and all these are grown on what were only 30 years ago but sandy dunes.

When we look around, we sometimes like to recall Turkish days. Then the roads were only bridle-paths, the streets in the towns were only cobble stones, if even that, the dogs were the only scavengers, the peasants were oppressed, the effendis were tyrants; if you uttered the word "liberty" or "bribery" (both were understood to be non-existent) you risked imprisonment; if you possessed a picture of Byron or Gladstone, even in a book, you were a deep-dyed criminal. If you dared to oppose a Moslem, it was interpreted as "cursing the religion," and you might be "bled white." But British occupation, and the presence of multitudes, with the very opposite of the old Turkish ideals, have changed all that. And even the most fanatical Arab is bound to confess that only the Mandate and Jewish Immigration have altered the whole face of the land, that through these, the old rotten jetty at Haifa has given place to a great harbour costing several million pounds. Unemployment has vanished, and the authorities cannot find labour enough to cope with the traffic in this great harbour, nor for portorage in Jaffa. And by natural means the wealth is increasing. In one month the income for Palestine from Import, Export and Transport taxation was £260,000, while the maximum known in Turkish days was £100. We can safely assert that, at the present time, Palestine is one of the most prosperous countries in the world, and the only one without unemployment.

IMPROVING OUTLOOK ON THE LANGUAGE QUESTION.

On a former occasion we dealt with the "Renaissance of Hebrew in Palestine," but now something further must be said of that in its relationship to the new immigrants. Each one naturally comes in with some Gentile language, and some dialect of Yiddish. The enthusiasm for Hebrew is, however, so great that, when men have been in the country for an average of eight months, they can do very well in Hebrew. Now we have in Jerusalem and Tell Aviv some of the greatest Hebrew scholars in the world, and they are issuing the older and the newer

literature in perfect editions. But, on the other hand, there are difficulties. New-comers are inclined to use the idiomatic expressions of their hereditary languages and dialects. Then, in the old days in the Holy Cities, a desire to know the grammar led to a man being designated an "Epicurean Unbeliever," and among the great Talmudists scarcely one was to be found, who could point three lines of the Bible or any other Hebrew book. And especially among Palestinian-born Jews, a good deal of indifference to grammar and correct spelling has been perpetuated. I suppose I am considered hypercritical, but it is certainly aggravating to have the harshest blunders brushed aside as "another dialect," and "that's how you pronounce it when it is pointed." And be it noted, that nearly every one of the mistakes made is due to some simple rule on syllabification being neglected.

But this, too, is rapidly being changed through the coming of Jewish immigrants from Germany. With the necessary change from the Ashkenazi to the Sephardi pronunciation they are compelled to stop and think. The good education of the German schools has prevented their sinking into slovenliness and inaccuracy. And in their zeal for the things of their race they take the grammar along with them, attain to an exactness themselves, and inspire others to the same on the very point where such was being so badly needed. They are preventing Hebrew sinking to the level of a series of jargons. All things are combining, even persecution and oppression, to produce great and good things for the future. The wrath of man is praising God.

DESIRE FOR FURTHER EDUCATION.

Many of the immigrants have a sincere desire for self-improvement. Not a few have had to come with an incompleated academic education, and would like to continue in suitable studies for their changed circumstances. In the colonies this has to be confined for the most to "self-help," but in the towns there are greater possibilities, as *e.g.* in the Technicum at Haifa. Where missions have conducted evening schools on the simple old-fashioned lines, or even up to the standard of "college entrance," they have attracted numbers, and been very helpful. The class of young men and young women that attend are such as have no desire to loaf about the streets, indulging in idle gossip, or fantastic

politics, but are in many ways the best immigrant material. They improve in physical appearance, and in gentlemanly manners, and not a few have confessed to the writer a material improvement in advanced wages on account of their acquired knowledge of English. But here something more might be done, especially in a city like Haifa, with its population of over 65,000 and expected to reach 100,000 by the close of the year, in contrast with—1,300 in 1890. A kind of "Workers' College," commencing at, say, 4 p.m., and continuing till 9 p.m., either as a missionary institution, or as a means of philanthropic higher education, would be a success from the first. And whether it meant "Conversions" or not, it would rub off rough corners, and produce a sympathetic relation with the Christian World. One might even grant certificates of Licenciate in Arts, Science, or Literature, and these, too, would attract. Even now pupils attending our evening classes have their homes ten miles distant.

RELIGION AMONG THE IMMIGRANTS.

In virtue of its variety, the religious point of view of the incomers is difficult to explain. It varies from the most orthodox rabbinism to the extremist agnosticism on the one hand, and to an over-voluble evangelicalism on the other. But on the whole the immigrant Jew, without becoming an absolute unbeliever, has broken away from rabbinical control. Very often in the colonies the "food question" has very little place. The writer travelled with the director from one of them. He had for his lunch "ham sandwiches," and he explained that he "was a Jew in heart, but not in stomach." We have met groups of young colonists, who did not know what was meant by "a Sabbath Day's journey," but they were not in any sense irreligious, for they walked more than double the rabbinical permitted distance to attend the synagogal services in an adjoining colony.

And it well deserves to be recorded that Jews coming from countries where they have endured persecution, and suffered loss, express no grudge against Christianity generally, on the contrary they appreciate association with Christians. They are very much in the position of the Jews we knew in Glasgow, who clearly distinguished between "Christian" and "Gentile." To them the sober, honest and kindly man was a Christian, while the cheat, the liar and the drunkard was a Gentile.

And in the Bible all are interested, and seek to possess "the complete Book," including the New Testament. The geography of the land has a peculiar interest for them, and one would almost think they sought to give the missionary an opening by their desire to identify Gospel sites, and to know their story. They are open-minded and ready to hear in groups, even in the colonies, unless when some obtrusive individual raises an offensive outcry. We have asked how they would regard Hebrew Christians in their colonies, and they were so little against the idea that they thought only of the working out of the Sabbath question, and replied, "They could keep their Sabbath, and we ours." Judaism seems to have a splendid opportunity at the present moment, to manifest a generous toleration, and to remove the taunt that is at times hurled at themselves, when they complain of persecution, namely, that they too, are persecutors. The only Jew that is ostracized is the Hebrew Christian. Let Judaism seize the occasion and recognize the Christian Jew as an integral part of Israel.

But there is still one peculiar position that has been brought about by the break-away from Rabbinical Judaism, that is in the matter of marriages. They very often take place without any religious ceremony, and as there is no civil marriage for Palestinians, and no registration, except through the Rabbinical or Ecclesiastical authorities, there can be no legal proof of the marriage, if doubted or denied. Ugly statements have occasionally been made as to "community of wives" in some of the colonies, but we have visited them, without being able to discover any impropriety, beyond the lack of ceremonial and registration as mentioned, together with the possibility of putting the children into a most undesirable position later on through the lack of necessary evidence. We should say that the government is desirous of making "civil marriage" possible for all, but in virtue of the absence of divorce in some Christian communities, and the facility of divorce in Rabbinical and Moslem communities, this is likely to be resisted. The difficulty might be overcome by making it voluntary.

IMMIGRANTS WITH UNDESIRABLE CHARACTERISTICS.

In the settlement of a new land, extremists are generally undesirable. And so it is in Palestine. There is a fly in the

ointment. There are little foxes that spoil the vines, two classes that have to be kept in check by the government, if peace is to be maintained and prosperity advanced. There are (i) The Communists. Their teaching is pretty well known everywhere and need not be recounted. I suppose they number only a few hundreds in Palestine, but they are noisy, loud spoken, demonstrative, and so their voice is being heard far beyond what their numbers would imply. They seek for success to their aims by their much speaking, and, but for the possibility of mischief inherent in their system, they might be well ignored. In the communistic colonies they are not all communists, and there we have discussed problems with them, and have heard the confession that they were "all equally poor." Some were desirous of purchasing books, but could only agree to pay "at the close of the year, when the division was made, if there was anything over." Communists as a class have less religion than the other Jews, and they attach more value to their own little unworkable "ism" than to being even "nationally Jews." Frequently they seek to gain over the Arabs, and seek union with them against both the government and recognized Zionism. Then there are (ii) The Revisionists. They too are men of varying mentalities, and of varying extremes. Generally they wish something more extensive in favour of the Jews than even the Balfour Declaration gave them. Were they to have their way there would be civil war in the land to-morrow. Some of them proclaim the wildest notions—they ought to have the whole of Palestine and Transjordan. It should be handed over, and for the local peasant populations, some of whom represent even the Canaanite-Israelite amalgamation of ancient times, and who are more purely Semitic than themselves, they care nothing.

We hardly like to continue, but it must be said. Extremists in patriotism are generally men whose own national or racial standing is doubtful, certainly among the extremists we have met in Israel, the majority seemed to possess more than an ordinary share of the Slavonic or Mongol type, and very likely investigation would reveal descent from either the Chazars, or from the Crypto-Jews so long connected with Russia. It has to be remembered too that, as communities or sects, they have no voice. So far as a contract exists, it is between the British Government, plus the League of Nations, and the Zionist Association. And it is well that it should be so. With the definitely-guided, clear-thinking Zionists men can deal, with others they cannot.

CONCLUSION.

Now, when men and women are drawn together from so many lands of every variety of speech and thought we naturally expect that there will be difficulties, jealousies and even strife. The remarkable thing through all these years is the comparative insignificance of undesirable incidents. We believe that the return under Zerubbabel, Ezra and Nehemiah had far more to face than the modern Jew has met. All this indicates good will on the one hand and good government on the other.

And if from time to time the various parties have complaints to make, we tell them that as a rule they have the remedy in their own hands. The Arab comes along with the complaint that the Jew is getting possession of his land. "Then," say I, "do not sell it to him, the fault, if fault there be, is your own. Besides the majority of those who are making this outcry have been either the Arab land agents who sold, or members of families that disposed of many acres to Jews. The remedy is in your hands, you need no help in the matter, and you have no ground of complaint." Then the Jew voices his complaint that the Arabs are coming over in multitudes from Transjordan, and settling illegally. There is something more in this than in the previous complaint, but the answer is practically the same, it is "Then, do not employ him, your people engage him, because they get him to give cheaper labour. The remedy is in your own hands." All these little grumbles and petty quibblings are as pebbles in the shoes of those that rule. They have their troubles. They face them manfully, and deserve not only our sympathy, but our heartiest commendation in their great work of re-constructing old Canaan. No other nation could do the work that is being done, and with such unbiassed justice to every section of the community.

And it rejoices the Christian heart to see the old prophecies being so literally fulfilled, "Surely the isles shall wait for me, and the ships of Tarshish first, to bring thy sons from far, their silver and their gold with them." "And the sons of strangers shall build thy walls, and their kings shall minister unto thee." "They shall build the old wastes, they shall raise up the former desolations, and they shall repair the waste cities, the desolations of many generations." "I will plant them upon their land."

* * * * *

The completed statistics for the year ending December 31st, 1933, are now (January 27th, 1934) available. The smallness of the variations confirm to us the steady and uniform manner in which this work is being conducted. There has been added, however, a summary of the nationalities of the Jewish immigrants during the year, as follows:—13,125 Jewish immigrants were of Polish nationality; 5,392, German; 1,411, Rumanian; 1,287, Yemenite; 1,256, Greek; 1,169, American; 1,099, Lithuanian; and 169, British. Further, 6,737 were under 18 years of age, 17,494 between 18 and 35; and 3,123 over 45 years old.

DISCUSSION.

Lieut.-Col. F. MOLONY remarked on the satisfactory nature of Dr. Christie's report on Palestine—the more welcome as we are hearing such bad news from many other countries. He pointed out an apparent slight discrepancy in the statement regarding the behaviour of orthodox Jews to Hebrew Christians, and asked about the trade of Haifa and the irrigation projects in the Jordan Valley.

Dr. E. W. G. MASTERMAN spoke of the writer of the paper as one of his oldest friends. Dr. Christie and he had spent a year together in Saed in Galilee some forty years ago. He wished, therefore, to express his appreciation of the most interesting and valuable paper which had been read. With regard to the attitude of Zionists to Hebrew Christians it might be said that while many Jewish colonists would not individually express strong feelings against Hebrew Christians—especially in talking to a friend like Dr. Christie—nevertheless, the attitude of the majority of Zionists—whatever their personal religious views—looked upon a Jew who became a Christian as a deserter of the national cause—a traitor, in other words. As to the opening of the Haifa harbour there are enormous possibilities of progress. Besides providing a breakwater of over a mile long a good deal of new ground had been recovered from the landward side of the harbour, which has been banked up so as to provide a large area of new ground for the erection of warehouses, Custom House buildings, etc. This has saved the construction of harbour works at the expense of the old town. Then shortly the great 600-mile long pipe line bringing oil from Mosul could be brought

to Haifa, and makes it one of the greatest ports in the Levant. It is also stated that by this means Palestine itself will have an abundant supply of cheap oil. Haifa is a rapidly growing town, and there was a great opening for a Christian Communal College such as the Anglican Bishop of Jerusalem is most anxious to have the necessary funds to open. He already has a substantial sum to form a nucleus toward it.

Then with respect to the Jordan Valley we have seen the Lake of Galilee, the great electrical power works established near the Jisr el Majamieh on the Jordan, which is already supplying electric light and heating, and will shortly supply almost unlimited "power" to every part of Palestine. And at the end of the Jordan Valley, near the Dead Sea, are the works for obtaining potash and other salts from the Dead Sea. The company expects within ten years to be producing 50,000 tons of potash annually. This is exported to various parts of the British Empire, etc., while the valuable bromide products go, it is said, chiefly to Great Britain. In connection with the export of these potash salts it is interesting to learn that there is a scheme, yet in its infancy, to carry out this export by transport by a road yet to be made to Akaba, the Ezion Geber of the Bible, where Solomon imported products from Africa and the East.

Mr. R. DUNCAN said he had listened to the paper with deep appreciation. He would like to know whether the land seems to place any distinctive stamp on the younger folk who have grown up in it; also whether the exaltation of spirit many of the immigrants must feel at being forerunners in the return of their race to the ancient home of their fathers is giving rise, as well it might, to something in the way of a new poetic literature.

To him (Mr. Duncan) the immigration outlook was not wholly reassuring. The measured progress to which Britain was committed was not easy to maintain in the face of such happenings as the recent outburst of persecution in Germany. That disquieting portent was likely to have far-reaching repercussions in swelling the tide of Zionism, and intensifying pressure on the Mandatory greatly to enlarge the quota annually of fresh entrants. If England, although sympathetic, feels she cannot wisely accede to this, the

outcome may be a formidable agitation for transfer of the mandate to some other Mediterranean power deemed to be more accommodating.

We should try to prevent any cooling of our *entente* with the Jews. There is one gesture we could make that would capture their imagination, and show at the same time to the world at large how deep-seated is our goodwill to this ancient people, and how implicit our recognition of their right to be considered still a nation.

English-speaking Jews of British citizenship are numerous enough now to be looked upon as a recruiting ground for military purposes. Our army comprises in its infantry regiments, a number of Guards battalions, Grenadier and Coldstream Guards of English stock, and, in addition, Scots Guards, Welsh Guards and Irish Guards. Why should we not take steps to enlist and maintain a battalion also of Jewish Guards. They would prove good military material, if history is any guide. By such action we should increase our own strength, enhance Jewish self-respect, and, incidentally provide a nursery for a dependable strain of future emigrants to Palestine.

Mr. R. MACGREGOR said : Perhaps everyone does not know about the International Hebrew-Christian Alliance started some nine or ten years ago, and now working in about fifteen countries. This Alliance is founding a Hebrew-Christian colony in Palestine, and has bought the land, and will be building houses. There are three special reasons for the founding of this agricultural colony : (1) in order to give employment to the Hebrew-Christians ; when a Jew becomes a Christian he loses his work. This unemployment forms a very great difficulty ; (2) in order that the Hebrew-Christian colony should be a witness to the Lord, to the Jews around ; (3) it would be a good thing to have a Hebrew-Christian colony established in Palestine, with its permanent influence.

The Rev. Principal H. S. CURR, B.D., B.Litt. said : My desire in making a brief contribution to the discussion is to call attention to what Dr. Christie has written regarding the character of the Zionists. The tribute to their lofty idealism has made a deep impression on me. No other nation on the face of the earth is capable of this wonderful self-abnegation, displayed by these Jewish immigrants

into the Holy Land. The paper tells us that they know well that they will never reap where they have sown, but they are persuaded that their children will do so, and that their sacrifices will not thus be in vain.

The light thus shed on the potentialities of the Jewish character is full of interest and significance. It must be acknowledged that the average Gentile tends to despise the Jewish race, but after what Dr. Christie has told us regarding the capacity for service and sacrifice which it possesses, such opinions must be revised. The Jewish poet, Heine, once remarked that God chose the Hebrews for their special ministry because of their toughness. After what we have heard, it must be obvious that there are other reasons, and more cogent explanations of Israel's election by God: Salvation is of the Jews. In the light of Dr. Christie's testimony it is only meet and right that it should be so.

This line of reflection sheds illumination on the past, and on the future. On the one hand, it leads us to review our estimate of the Jewish people as they are represented in the pages of the Old and New Testaments. The reader perhaps tends to think meanly of the chosen people as he reads of their unbelief and perversity, but while these cannot be minimized the fact remains that the nation can rise on occasion to wonderful heights of idealism in the present and service of the highest. After all has been said, the Divine Saviour of a lost world took upon Himself the form of a Palestinian Jew. That would not have happened by accident. On the other hand, the Jewish people have a wonderful future, a statement which the study of politics or prophecy will amply substantiate. It is reassuring to learn on such high authority that the Jewish people is still capable of such self-sacrifice as Dr. Christie describes in his excellent monograph.

The Rev. FRANK J. EXLEY said: It has been my privilege to visit Palestine on three occasions in connection with the work of the British Jews Society, under whose auspices Dr. Christie is now serving, and I am therefore especially interested in his paper, and am able to confirm from my own observations much of what he has set forth. What is especially valuable to my mind is his testimony to the character of the Jewish immigrants, for they have sometimes

been maligned in other quarters. There is no doubt that they are such colonists as any country might well be proud to possess, and our experience is that they are far less given over to prejudice than is often the case elsewhere. There is a great field for Gospel ministry among them.

Dr. Christie stresses the growing importance of Haifa and mentions the need for increased educational facilities there. This is important since by far the greater number of Jews enter Palestine at this port and many of them settle in the town. Our own Society is seeking to extend its work there, though it is not probable that we shall be able to provide facilities for the educational development for which Dr. Christie pleads.

WRITTEN COMMUNICATION.

Col. KENNEY-HERBERT writes: Does the Lecturer think that Jerusalem is now "trodden down of the Gentiles" within the strict meaning of Luke xxi, 24, or has the actual treading down ceased? The paper is a valuable one, and the writer's opinion on this question would also be valuable to me.

LECTURER'S REPLY.

I desire to tender my best thanks to Mr. Exley for reading my paper, and to the speakers for their kindly and illuminating additions. The question of immigration has been raised. The Government is carrying this through on the most satisfactory lines, considering the classes of desirables, housing and sanitary conditions, and certainty of work during the whole year. Decisions cannot be reached and estimates made merely on the basis of the "fruit season," and this the grumblers wish us to do. The question of illegal immigrants is serious. Arabs come over the Jordan at all points, but they come as *individuals*, seeking work, which individual Jews generally give them, thus securing cheaper labour. Illegal Jewish immigrants are on a different footing. They land on the coast, away from the ports, and with arrangements manifestly made for their reception. Just this week the owner and captain of a ship have been before the courts, along with three Palestinian Jews, for bringing in illegally 17 immigrants.

Another serious matter has arisen this year in connection with the Jewish Electric Power Company on the Jordan, a few miles below the Sea of Galilee. The company has been dredging at the outlet of the Jordan, and arranging the Sea as a reservoir, to be lowered or raised to suit their own convenience. This means that the Sacred Sea will be much destroyed as an interpreter of the Gospels. In April I forwarded to them a statement, and a copy of MacCheyne's verses, to show them what the Lake meant to the Christian in sentiment and faith, but they still persist. The Christian world must stand together against this unspeakable desecration. It violates, of course, the Balfour Declaration, which guarantees the rights and interests of other communities, and consequently the granting of the concession was *ultra vires* of the British Government.

In reply to Colonel Kenney-Herbert's query, I would say that at the present moment Jerusalem seems to be "trodden down" by all three parties—Moslem, Jew and Christian—each seeking precedence, priority and power.

777TH ORDINARY GENERAL MEETING,

HELD IN COMMITTEE ROOM B, THE CENTRAL HALL,
WESTMINSTER, S.W.1, ON MONDAY, MARCH 26TH, 1934,
AT 4.30 P.M.

K. B. AIKMAN, Esq., M.D., M.A., IN THE CHAIR.

The Minutes of the previous Meeting were read, confirmed, and signed, and the HON. SECRETARY announced the following elections as Associates:—Albert Hooper, Esq., B.Sc., the Rev. T. C. Innes, M.A., and Professor E. McCrady, D.D.

The CHAIRMAN then called on Mr. G. R. Gair, M.A. (Edin.), F.R.A.I., F.S.A.Scot., to read his paper on "The Cradle of Mankind."

THE CRADLE OF MANKIND.

By G. R. GAIR, F.R.A.I., F.S.A. Scot., M.S.A.S. (Hon. Editor, The Scottish Anthropological Society, Lecturer in Anthropology and Allied Sciences, Free Church College, Edinburgh).

SCIENTIFIC enquiry has frequently turned to the subject of the origin of man and the lands where his first civilization developed. Unfortunately, the problem seems to have grown more complex with the advance of scientific investigation. Nevertheless, all this careful research cannot lead us into a quagmire—to believe that would be to avoid a problem because of its manifest difficulties. On the contrary, out of the natural confusion must come an ordered elucidation. Now is the time for this, since sufficient evidence has accumulated to make our study of scientific value and not purely apologetic.

The theories fall into two main schools of thought—an eastern and a western (or African). The latter has received considerable adherence, owing to the research work of recent years. Its growth was natural; the fact that relationships existed between Early Stone Age cultures in Europe and those of Northern Africa became strong presumptive evidence for a connection between the races of Europe and Africa. This, of

course, was more and more strengthened as discoveries in Africa proved that not only were the relations of European culture with Northern African demonstrable, but also with those of Kenya, Rhodesia and even South Africa.

The outcome of these discoveries developed a great school of thought which looked upon Africa as the primitive homeland, not only of the great apes, but also of early man. From little-known Africa, men streamed northwards to settle in Europe at the close of the glacial period. Some of these peoples fixed their homes on the shores of the northern seas and underwent a process of bleaching which gave rise to the fair-skinned, light-eyed and yellow-haired peoples of Britain, Scandinavia and Germany. Such is the viewpoint which we may term the African hypothesis and one accepted *in parte*, or *in toto*, by many leading anthropologists and archæologists. The theory of the independence of Europe from Asia, however, has in the past received strong support from well-known philologists as well. In fact, it is perhaps to the philologist that this outlook is very largely due.¹ Dr. Isaac Taylor² echoes the views of many scholars, both past and present, when he classes as a mere figment, wholly contrary to the evidence and highly improbable, "the hypothesis that a small Aryan clan in Central Asia could have sent out great colonies which marched four thousand miles to the shores of Europe."

It must be admitted that such views are widely held, and many philologists, ethnologists, archæologists and anthropologists have, in the past, slowly forsaken an Asiatic centre of dispersion for men and civilization, in favour of development, very largely, in Europe supported by inflowings of Africans.

A review of the question, however, shows that fifty years ago philologists were led to the valley of the Oxus and the mountains to the south as the starting points of the nations. These views were based on the then known historical and linguistic evidence. By comparative philological methods these views were raised almost to a level of an historical certainty. Adolphe Pictet³ attempted to show that the Aryan cradle was ancient Bactria. From this original homeland of the white race, according to Pictet, came the Celts, who settled round the Southern Caspian in the region of the Caucasus, in the districts of Albania and Iberia, before they moved northwards to maritime Europe. But opinion slowly turned against such a hypothesis. The views of Karl Penka,⁴ O. Schrader⁵ and others represent the late

anti-oriental school. However, opposing these we have the famous Max Müller,⁶ Ch. de Ujfalvy,⁷ Van de Gheyn.⁸ Max Müller's conclusion is interesting: "I cannot bring myself to say more than *non liquet*. But if an answer must be given as to the place where our Aryan ancestors dwelt before their separation, whether in large swarms of millions, or in a few scattered tents and huts, I should still say, as I said forty years ago, 'Somewhere in Asia,' and no more."

On the other hand, scientific evidence appears to have sufficiently advanced to enable us to re-consider the whole question with fuller knowledge, and in this light I believe that the oriental hypothesis contains the greater truth. Consequently, my thesis is given that it may contribute something towards a co-ordination of our knowledge of the origin of ancient peoples and their civilizations.

The archæological evidence clearly indicates a ring of the most ancient civilizations in the world around the high mountain area of Irania, and is represented by the discoveries in Mesopotamia (Kish, Ur, Al'Ubaid, Eridu, Erech, etc.), Susa, the Indus Valley (Mohenjo-Daro, Harappa), and even Anau in Turkestan, while Egypt and Syria must be looked upon as outliers. Not only this, but we have definite evidence of their inter-relativity.^{9a}

This brings out three important facts; that at the base of the Iranian Highland Zone, and partly within it, there are the remains of ancient civilizations; that, although each is distinctly individualistic in character, they are obviously inter-connected and inter-related to a greater or lesser extent; that these civilizations are in the main the oldest in the world. Under such circumstances it is evident that the whole weight of evidence favours the cradle of civilization lying within this Iranian zone. In the light of such evidence the stigma (such as that of Salomon Reinach, who calls it a *mirage*) formerly hurled at this view by Occidentalists is invalidated. Indeed, weighing high antiquity and progressiveness on the one hand, in the Orient, and negation in early prehistoric Europe we are entitled to ask, as Peake has, "How did these (epipalæolithic) backward and unprogressive people develop into the Western Europeans of to-day?"^{9b} The chronology alone gives the Iranian Highland Zone civilizations a start of several thousand years, while it may be questioned, on a biological basis, whether the degenerate and uncouth savages of Maglemose could ever aspire to the creation of modern Europe.

Frankfort¹⁰ has shown that within the zone, at the first settlement of Susa, is to be found the most ancient pottery of south-west Asia, if not in the whole world.¹¹ Furthermore, an early form of pottery comes from Anau, although Frankfort has shown that Anau is not so old as Pumpelly believed.¹² Therefore to Irania and the adjacent regions belong some of the earliest manifestations of one of the foundations of civilization—the art of making a clay vessel.

The pre-Sumerian population of Mesopotamia appears to have been blonde as well as dolichocephalic, and in view of the general contacts with Irania, as well as the known fact of its former fair population, that region must be looked upon as the homeland of the earliest form of civilization in Chaldea.¹³ Furthermore, there is now evidence to show that the whole of the adjacent areas to the Highland Zone, and its connected systems, were affected by the inflowing of proto-Aryan and probably proto-Nordic peoples, as for example the Mitanni, Kassites, and Hurri¹⁴ while even the ancient Israelites had affinities with the northern mountain region rather than Arabia as most critics have conjectured.¹⁵

Mr. O. G. S. Crawford has attempted to show¹⁶ that the civilization of Chaldea was scarcely influenced by the pre-Sumerians and that the Sumerians had their cradle in Arabia. The first contention would be difficult to prove, since the other civilizations in the peripheral zone had similar dolichocephalic peoples, and even if the Sumerians gained little from the pre-Sumerians directly, the latter were the common possessors with other regions of an early civilization, which seems from the evidence, to be Iranian. Consequently this does not affect the view that the earliest civilization was here. Furthermore the anthropological fact that the Sumerians were brachycephalic seems to unalterably attach them to Central Asia, where broad heads are and have been dominant, and not Arabia. He cites the kilt or kaunakes as evidence against a northern origin. But this seems of little weight against an Iranian origin, since the Sumerians could have come from the south-east of Irania. Furthermore, northern and mountain people have worn kilts in many regions (Scotland, the hills of Ireland and Albania). Consequently the evidence seems to clearly show the first-comers with any pretence to civilization, the pre-Sumerians, coming from the north or east with racial affinities to a vast number of peoples of long-headed types inhabiting the highlands of

Irania, while the Sumerians arrive in all probability from the same mountains, but from the south-east.

If civilization and the earliest races developed in this region, our case would be materially assisted if we were able to find remnants of those races, which we believe once inhabited that region but are now dispersed over wider areas of the earth's surface, still *in situ*. In addition we must be able to find from the evidence in archæological and historical research that such races as the Alpines and Nordics were once settled in the region and its outlying regions. This latter we have already seen to some considerable extent, since the dolichocephals of Mesopotamia, Syria and Anatolia were apparently congeners not only of other peoples of similar characteristics in Irania, Turkestan and India, but also of the modern Nordic populations of North-western Europe. History adds its support to this case. Thus on a native map in an old Chinese commentary on the historical books of Confucius, at a point in the Tarim basin (the northern peripheral zone of Irania) we read—"Here dwell the Usun, a people with blue eyes and red hair."¹⁷ Herodotus tells us that the Budini, who also lived in Turkestan, were blue-eyed and red-haired,¹⁸ evident references to Nordic-like (or at least Aryan) folk in early times living in this region. The evidence is very definite—on all sides of Irania there poured out in ancient times, streams of men with what may be termed Aryan affinities.

Strong support to this conclusion is given by the added fact that there are actually still surviving remnants of these ancient races in this region otherwise so Mongoloid. Sir Marc Aurel Stein measured the Pakhpo hillmen, in Chinese Turkestan at K k-yar, who originally spoke an eastern Iranian language (and who are allied to the Wakhs, Shughnis and other tribes). He says of these people that they have "in Alpine isolation preserved remarkably well the main physical features of that *Homo Alpinus* which in ancient times appears to have extended right through Khotan and farther east along the southern edge of the Taklam-Akan."¹⁹ Likewise the Ghalchas, hillmen of Roshan,²⁰ display similar characteristics, being tall, well-built, of European appearance, and with fair hair, blue or steel grey eyes and flowing beards, and represents the Alpine type, probably with an admixture of Nordic blood, if we may note the wavy hair and other significant features. It is interesting to note that the women of Roshan "bleach" their skin as an aid to

beauty. This surely shows a value set upon a fair skin, and clearly indicates the desire of these people to maintain that evidence of their white affinity.²¹ The Wakhi population, in the uppermost Oxus, speak an Iranian language and have fair hair and eyes, which were even noted as early as 1602, when the Jesuit, Benedict Goës, passed through Wakhan in search of Cathay, and remarked their resemblance to the Flemings, a Nordic-Alpine people.²²

As a supplement to what has already been said we learn that these are not the only tribes in this highland area possessing such characteristics. Thus we find that the cephalic indices of the Biloch, Sayad, Sistani and Darwazi are 76·81, 77·21, 76·50, and 79·88 respectively. Here, then, we have peoples with mesaticephalic skulls, and therefore we can confidently believe that we are dealing with a strain of dolichocephalic peoples—who, in view of the tendency to fairness generally among these Non-Mongolic hillmen—were probably of proto-Nordic descent. In the case of the first three of the above tribes, we find these are the least fair of the hill tribes, probably due to an Afghan, Indo-Persian or other infiltration. Since we should expect to find light colour (which proves to be so easily recessive) rapidly influenced, even before any skeletal change is noticeable, it seems evident that we have a fair-long-headed strain, which has undergone a process of nigrescence-growth due to miscegenation. In the case of many of the more fair broad heads, miscegenation has likewise occurred, but its evidence is also not in skull type (since the surrounding Mongoloid peoples are likewise brachycephalic), but in the degree of nigrescence observable.²³

In consequence of these considerations, investigators are being compelled to go back to theories of an older generation represented by the names of Max Müller, Lasson and others. We find that Dr. A. C. Haddon²⁴ voices these new, but old, concepts when he says: "The tall, fair, blue-eyed dolichocephals of North Europe are generally believed to be a variety of the Mediterranean race, but these may equally well be two varieties of a common stock, the former probably having their area of characterization in the steppes north of the plateaux of Eur-Asia," while Sir Arthur Keith, in his Frazer lecture at Glasgow University, on March 4th, 1932, says, speaking of the mountainous area of Iran, "Discoveries are being made which, if they do not reveal the actual original Aryan home, do guide us in its direction."

From their residence in the high lands of Inner Asia it seems clear that these peoples are not the residuum of immigrants, as we should be compelled to believe if we accepted the occidental view-point. Indeed, the evidence seems to show that the Aryan hillmen are still retreating as cut-off fragments of a former order before the Kirghis.²⁵ This is strengthened by the fact that there is evidence that Iranian speech was once current from the Black Sea across Turkestan to the borders of China, and, not only that, but persisted until a relatively late period. Thus at Dandan-oilik in Chinese Turkestan, as late as A.D. 713-41, we have paper MSS. written in Indian Brahmi script, with Buddhist texts partly in Sanskrit, and an unknown language (called Khotanese) which has been shown to be allied to that of ancient Bactria, and thus Iranian.²⁶ At the Niya site there was discovered writing in the Kharoshthi.²⁷ This seems to indicate that the Scythian influence spread as far as this region (as we may have concluded already from historical facts), and that it was Iranian in speech, another indication that the region was once Aryan-speaking. Remnants of the lost Sogdian script have been found by Sir Aurel Stein,²⁸ and, in particular, among Chinese records at a military station in the Tun-huang region, where a wooden tablet (c. 1st century B.C.), inscribed in Early Sogdian, was discovered.²⁹ Whilst at the "Caves of the Thousand Buddhas" have been discovered thousands of MSS. in Chinese, Tibetan, in Indian scripts, and Sanskrit. This is indicative of Iranian influences so far to the east as late as the 9th century A.D.³⁰ One language discovered is of special note—Tokhari, which was once spoken in the north of the Tarim basin and Turfan. This tongue has proved to be more nearly related to the Slavonic and Italic branches of the Aryan language than to those spoken in Asia.³¹ In view of the late arrival of the Slavonic-speaking peoples in Europe from the east, this, on *a priori* grounds, goes far to indicate not an eastward but a westward movement, and is material to this thesis. It is also important to remember that the Slavonic languages of Europe are closely associated with the Alpine racial type, and in view of the already demonstrated survival of Alpine remnants in Central Asia, the evidence is considerably strengthened. Thus the philological evidence seems to be clearly in support of the archæological and anthropological, which indicates an outward movement from Central Asia. Like waves of the sea the peoples, their cultures and languages have flowed from the fountain-head, and have rarely returned,

leaving isolated "fossil" elements (as the Ice Age has left "fossil" ice on the high mountains in the same region) in dead languages or "lost" peoples here and there. From time to time "reflexive" movements have taken place—the march of Greeks to the heart of the Ancient World, or the spread of the Aramaic script (under the influence of the Manichæan church) to Sogdiana—but these are merely man-made interruptions of the natural flow of a tide which has never ebbed.

Therefore scientific discovery has completed its cycle of development in this matter, and is returning with added proofs, to a position in accordance with the minds of great scholars of the past. Furthermore, it is slowly, but surely, aligning itself with traditional and historical conceptions. From the Orient came our peoples and our civilizations—and from that Orient with which we are familiar in our ancient literature. Civilization and race-development neither started in the shell heaps of the Baltic nor in the equatorial regions of Africa.

In the foregoing I outlined the Caucasian theory as based upon the conceptions of philologists during the past century. Its growth and eventual decadence were traced. Finally, the resuscitation of the hypothesis, due to the amazing amount of archæological and anthropological evidence since discovered, was outlined. In this connection Professor Sir Arthur Keith's adherence to the Caucasian theory was welcomed.

Before dealing with evidence of an archæological or anthropological character (such as I have already done) in favour of this point of view, a natural difficulty—a question of biogeography, must have occurred to all. If we are to postulate that races and civilizations grew up in, and spread out of, Iran, what of the climatic factors? This is a very natural difficulty which is bound to present itself to enquirers at the outset. The plateau region of Iran is part of the great Eurasiatic spine, rising from 6,000 feet in Anatolia to nearly 12,000 feet over much of Persia. To-day this plateau region consists very largely of poor steppes and deserts. The January temperatures (reduced to sea level) are 60° to 50° Fahrenheit. Let us say 55° Fahrenheit. When due allowance is made for altitude, let us take an average height of 6,000 feet; this means that the average temperature in this month is about 35° Fahrenheit. The July temperature similarly approximated, gives us an average of over 70° Fahrenheit. A range of 35° Fahrenheit between the two months. (The range between these months in most of Britain is about

20° Fahrenheit.) The rainfall, which is a more important matter than temperature in this case, is less than one inch in January and July. The consequence is, the population is less than two persons to the square mile in some areas, and in the more populous parts, ranges from two to twenty-six persons per square mile. Bearing these facts in mind, the Caucasian theory, be it never so strong in its purely academical concepts, seems to be untenable on a physical basis. Can the great mountain mass of Iran really be the home of civilization? On first consideration it seems hard to believe such a region as this could be the centre of dispersion of hordes of humanity, and in particular the focal centre of the great Aryan peoples.

At this point it is necessary to remember that climate has not always been the same as it is to-day. In fact, concerning this region the many prehistoric sites demonstrate forcibly that something radical has happened to the general conditions of life during the last 6,000 years.

Meteorology, astronomy, anthropology, archæology, zoology and geology all unite in proving that there have been great changes in climate since life appeared on the earth; and in the case of geology alone, there is evidence of these changes before the appearance of life at all. Proof of an Ice Age is to be found in the oldest known rocks—the Archæan. Later in Lower Cambrian, then in Permo-Carboniferous and finally in Quaternary times, evidences of cycles of glaciation are found.

In post-glacial and historical times climatic alterations are known to have occurred. Some of these changes have been noted, either in early meteorological registers, *e.g.*, those of Ptolemaeus, first century; Tycho Brahe in the sixteenth century; or in legends and history; or else they are inferred from the distributions of civilization in now uninhabitable lands; or from the recording of lake levels, as for instance those of the Caspian Sea; and so on. Many reasons have been advanced to account for these changes of climatic conditions. We have theories of eccentricity of the earth's orbit, formulated by Croll, and of obliquity of the plane of the ecliptic, by Drayson. Then we have views based upon the changes in radiation and the consequent climatic variation with the changing amounts of carbon dioxide and impurities in the air, held by Chamberlain, Humphrey, Tyndall, and Frech. There is also the sun-spot cycle theory of Huntington and Visher. Finally, we have the hypothesis of

Continental Drift, and a movement of the poles which owes its origin to the work of Kreich-Gauer, Köppen and Wegener.

We cannot here discuss further the relative claims of these theories, but the fact remains that we have definite evidence of continuous change in climatic and meteorological conditions from earliest geological to recent times. Concerning our "home of the nations" (in particular, the Iran Plateau), we know that it formerly enjoyed much milder and more temperate conditions. The lake levels in the Near East were higher and steppe lands appeared where now is desert, and forest instead of steppes. These differences were no doubt due, in part at least, to the cyclonic paths following another track than that customary in modern times. To these great alterations in our climate we must attribute many stories which have been stigmatized by ignorant critics as fables. The Twilight of the Norse Gods and the Flood legends of the Chaldeans are all references to actual events which happened at periods of greater snowfall and more pluvial conditions.

A detailed study of climatic changes in post-glacial times brings out very clearly in what measure the Asian lands, which are now vacant wastes, or nearly such, were experiencing pluvial conditions. This is the more important when we realize that it is partly the existence of such conditions in Northern Africa, as well as the purely archaeological evidence, that has driven so many to search for an African cradleland. For example, the intense desiccation which Central Asia has undergone (even if sometimes spasmodically as well as progressively) is evidenced everywhere to the traveller. Thus are found the remains of temples and town sites of Greek, Roman, Chinese, and Buddhist character,³² some of which contain extant Buddhist paintings, while others form mines for the meagre population in search of gold leaf (which formerly covered images and buildings, and now witnesses to a lost civilization) and other treasures.³³ Or else the desert is dotted here and there with the trunks of trees (willow, white poplar, and other planted trees, and fruit trees, such as peach, apple, plum, apricot and mulberry).³⁴

These changes, which have brought about such widespread desolation, are not of recent occurrence, owing to the breakdown of irrigation or some other such cause. We find, for example, remains of very ancient date³⁵ in what are now completely arid regions. The history of the site of Anau gives conclusive proof of the desiccation which the Iranian region has undergone.

The aridity of Central Asia clearly seems to be correlated with the increase and decrease in the size of the lakes and oceans once existing in greater numbers than to-day. This phenomena was undoubtedly due to particular regimen of cyclonic activity, and in turn may be associated with the advance and retreat of the glaciers of the high mountains of Central Asia. From tertiary to post-glacial times an ocean stretched from the Middle Danube far into Central Asia, of which the remnants to-day are the Black Sea, the Sea of Azov, the Caspian, the Aral, and other smaller sheets of water. Owing to these conditions, Central Asia enjoyed pluvial conditions which only terminated with the retreat of the ice and the change of the cyclonic paths. Since when desiccation has been taking place, and will become more intense as the "fossil" ice on the high mountains grows less.

The existence of these former oceans and pluvial conditions had two important effects. Direct migration to the north-west was retarded at the earliest stages of civilization, and men were compelled to migrate through the Mediterranean and Northern Africa. Consequently the migration of cultures from the south into Europe is no argument for an essentially African origin, as has been maintained heretofore. Furthermore, the pluvial conditions brought about a region of increment in the whole of the foothills and higher lands of Irania and made the development of civilization, and the higher types of races, possible. Had this not been the case the civilizations of Chaldea, the Indus Valley and Persia could never have existed, and neither could Parthia have challenged the power of Rome.³⁶

The evidence of science (archæology, anthropology, philology, geography and geology, and of botany and zoology if space had allowed further discussion) as well as of history shows clearly that the Asiatic hypothesis is not without considerable foundation—indeed, it seems certain that the whole weight of dispassionate enquiry must be held to favour an Iranian origin for civilization, and for the races and peoples to-day inhabiting Europe. Here then, at the feet of the western Eurasiatic mountains, forming a peripheral margin to the upland regions, existed civilization, while the rest of the world was still hidden in primæval darkness. It is to this region we must turn for our own ancestors and their first civilizations, and not to the dismal primæval European forests nor to Africa. Among the peoples

and civilizations of Irania, in a region of climatic optimum (as it then was), in the lands of Bactria, Persia, Elam, Media, Parthia, Sogdiana, of the Budini, the Massagetæ (the Sacæ and Yechi), from whence have flowed Aryans into India, peoples to China, Goths, Huns, Magyars and Avars to Europe, we turn for the original Ararat, the high-hills which were once the cradle of mankind.

APPENDIX A.

As early as 1851 Dr. R. S. Latham wrote against the then prevalent oriental hypothesis. He argued that since the bulk of the Aryan peoples are living in Europe and only detached fragments in the East, and since Lithuanian is clearly related to Sanskrit, and, if we had an ancient Lithuanian literature as old as the Sanskrit and Zend, the argument would more likely favour the Baltic. Among the criteria of the anti-orientalists are those based upon a botanical distribution of plants contained in the primitive roots of a language. For example, the word for "beech" tree (Latin, *fagus*) is common to all European Aryan languages. Since the beech is not found east of the Crimea and Caucasus it is argued that these languages must have evolved in Europe, from whence they overflowed into Asia. Such an argument seems to assume far too much. It is generally admitted that the Greeks used *φηγός* for oak and not beech, apparently, we are told, because they possessed few beeches but many oaks. But if this should have happened in this instance there is no reason why it should not have done so in others. Further, since the beech is so limited to Europe it seems clear that the distribution of the name should be European. Again, granted an eastward movement of peoples we should expect to find the distribution for the word beech among all the oriental Aryans, even if applied to other species. This is not so, and since distributions is expected within the habitat of the genus, there can be no evidence in this for a European cradle-land. Yet we find R. A. Smith using such in "The Bronze Age Guide," The British Museum, p. 12. Again, any arguments, such as those used, seem to vitiate themselves since they imply a static biological state in nature's distribution, whereas the contrary is rather the case.

APPENDIX B.

This is clearly shown by the similarity of finds, for example, in the Royal Graves³⁷ at Ur and at Mohenjo-Daro,³⁸ where red carnelian beads decorated in an elaborate white design have been found.³⁹ The beads from India were in the highest levels, and consequently Mohenjo-Daro appears to be earlier than this date. At Chanhudaro, Nawab Shah district, Sind⁴⁰, a flat oval bead with a figure of eight design was discovered and was exactly similar to that found by Mackay at Kish.⁴¹ Another resembles in shape and marginal decoration a bead from Kish (dated about 3000 B.C.)⁴² Other similarities exist.⁴³ Significantly also is the fact that painting upon carnelian is still practised in Persia, midway between Mesopotamia and the Indus Valley. Furthermore, such beads have been found in Russia, although of a later date.⁴⁴ We also find that the rectangular bead in the higher levels at Mohenjo-Daro is analogous to a bead from Queen Shubad's Grave (Ur—c. 3100 B.C.).⁴⁵ While serrated forms of beads have been found at Mohenjo-Daro⁴⁶ and at Ur and at Kish.⁴⁷ Furthermore, flattened hemispherical-shaped terminals are frequently found at Mohenjo-Daro,⁴⁸ and also well to the west on the other side of Iran at Byblos,⁴⁹ while hollow gold terminals of the same period have been found at Gizeh.⁵⁰ Of particular importance is the discovery at Tépé Douecya, Susa,⁵¹ of representations of hemispherical and triangular-shaped terminals (dated First Period, c. 4250 B.C.).

The cubical dice also, as Mackay⁵² shows, has many examples at Mohenjo-Daro⁵³ and one has been found at Ur, while another found at Tel el-Amarna has the numbers arranged identically as at Mohenjo-Daro⁵⁴ which must be more than a coincidence. A tetrahedron found at Al'Ubad is identical with another from India.⁵⁵ In addition thick pottery rings (internal diameter one inch) have been found at Kish⁵⁶ by Mr. Mackay, and at Mohenjo-Daro.⁵⁷ The framed Greek Cross as a decoration affords another link between Ur⁵⁸ and is associated with the Swastika, which is known at an early date in India, and on the Early Painted Pottery of Elam.⁵⁹ Feeding cups (with the spout rising from the bottom) are found in the Indus Valley and at Ur alike,⁶⁰ while a shell ladle is found at Mohenjo-Daro,⁶¹ Kish and Ur. In the early graves at Ur, and in the Indus region, stone beads capped with gold are found, while certain perforated vessels found at Mohenjo-Daro⁶² are

related to those found at Kish.⁶³ Zoomorphs show similarities (panther heads in India)⁶⁴ and masks at Ur, dated c. 3500 B.C., while Elam (Musyam), Crete, Harappa and Mohenjo-Daro⁶⁵ have yielded doves. The dove is of particular interest since it has been found in gold and lapis lazuli at Susa,⁶⁶ and at the temple at Al'Ubaid (where it is dedicated to the goddess Ninkharsag).⁶⁷ Mackay⁶⁸ points out that the doves occur in Crete and Sardinia as well, and is a Mother-goddess cult sign.

Ram-like zoomorphs have been found at Mohenjo-Daro,⁶⁹ at Ur⁷⁰ and at Kish.⁷¹ Further links are proved by jar-borers found in the Indus region,⁷² and at Meraijib (near Ur). A figure of eight design common to the Indus⁷³ has been found at Kish, and in Egypt, in the 13th-17th dynasties,⁷⁴ and probably in the Second Predynastic, when the people possibly came from the Red Sea and were therefore Asiatics. Commonly found at Mohenjo-Daro are four-petalled rosettes⁷⁵ and these are found on painted pottery at Tell Zeidan, in Northern Syria.⁷⁶ Mackay (*Kish*, p. 471) points out that this motif is unknown in the countries between, which seem to demonstrate the probability of the motif having been distributed by migrants along the Mountain Zone, and therefore in country as yet little excavated. "Reserved" slip-ware is common to the Indus,⁷⁷ and Ur⁷⁸.

ABBREVIATIONS.

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|--------------------------|----|--------------------------------------------------------------------------------------------------------------|
| Mackay, <i>Antiquity</i> | .. | Mr. E. Mackay, "Further Links between Ancient Sind, Sumer and Elsewhere." <i>Antiquity</i> , December, 1931. |
| Mackay, <i>Kish</i> | .. | Mr. E. Mackay, <i>Sumerian Palace and a Cemetery at Kish</i> , Field Museum, Chicago. |
| M-D. | .. | <i>Mohenjo-Daro and the Indus Civilization</i> , edited by Sir John Marshall. |
| M.D.P. | .. | Mém. Délégation en Perse. |
| <i>J.R.A.I.</i> | .. | <i>Journal of the Royal Anthropological Institute</i> . |
| Stein | .. | Sir Marc Aurel Stein, <i>On Central Asian Tracks</i> , 1933. |
| Pumpelly, 1905 | .. | <i>Explorations in Turkestan</i> , Carnegie Institution, Washington D.C., 1905. |

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- (1) See Appendix A.
- (2) *The Origin of the Aryans*, 1906, p. 5.
- (3) *Origines Indo-Européennes*, 1859.
- (4) *Origines Ariacae*, 1885.
- (5) *Sprachvergleichung und Urgeschichte*.
- (6) *Biographies of Words and the Home of the Aryas*, London, 1888.
- (7) *Le Berceau des Aryas d'après des ouvrages récents*, Paris, 1884 ;
extrait des *b. de la société d'anthropologie*.
- (8) *L'origine européenne des Aryas*, Antwerp, 1885, Paris, 1889.
- (8^a) See Appendix B.
- (9) Presidential address, *J.R.A.I.*, p. 21, vol. 57, 1927.
- (10) *Antiquaries Journal*, IV, 1924, p. 59.
- (11) That of Badari in Egypt (Sir F. Petrie, *Man*, XV, 78 ; XVI, 34)
can be but very little earlier, if at all, while Knossos in Crete, which
is Predynastic, is certainly no earlier.
- (12) *Antiquaries Journal*, IV, 1924, p. 84 ; Pumpelly, *Exploration in
Turkestan*, Carnegie Institution, Washington, D.C., 1905 and 1908.
- (13) Prof. A. H. Sayce, "The Antiquity of Civilized Man," *J.R.A.I.*,
vol. LX, 1930.
- (14) *Ibid.* and A. M. Tallgren, "Dolmens of North Caucasia," *Antiquity*,
June, 1933, p. 200.
- (15) A short paper by myself on "Problems in Biblical and Mesopo-
tamian Ethnography and Geography, read to an "Informal Study-
Group" in London, 8, October, 1932, obtainable from the Secretary,
Miss A. C. Robertson, 2, Thames House, E.C.4.
- (16) *Geographical Review*, 1926, p. 73 *et seq.*
- (17) R. Pumpelly, *Explorations in Turkestan, Expedition of 1904*,
Carnegie Institution, 1908, Washington D.C., p. xxv.
- (18) Furthermore, the town of the Budini was Gelonius and had a
Greek Colony—a fact more easily understood if they were Aryans and
not Mongols.
- (19) Stein, p. 50.
- (20) *Ibid.*, p. 299.
- (21) Stein, pp. 319–20.
- (22) Stein, p. 310.
- (23) For a detailed study of these tribes see *Notes on the Physical
Anthropology of the Pamirs and Oxus Basin*, by T. A. Joyce, M.A.,
F.R.A.I. Appendix C, *Innermost Asia* (Stein), vol. II.
- (24) *The Wandering of the Peoples*, p. 16, Cambridge, 1927.
- (25) W. Rickmer-Rickmers, "The Alai-Pamirs Expedition in 1913
and 1928," *Geographical Journal*, vol. LXXIV, 1929, p. 220.
- (26) Stein, p. 60.
- (27) An Aryan dialect, which in India is found on inscriptions of the
Kushana or Indo-Scythian dynasty of the first three centuries A.D.
Stein, p. 71 *et seq.*
- (28) Stein, pp. 139–140.
- (29) Stein, p. 80.
- (30) Stein, pp. 193 *et seq.*
- (31) Stein, p. 215.

- (32) Stein, p. 96 *et seq.* and elsewhere.
- (33) As at the ancient capital of Khotan, Stein, p. 55.
- (34) Stein, p. 59, p. 84, also see Pumpelly, 1905, pp. 276-277, T. H. Holdich, "The Indian Borderland," London, 1901, p. 107; W. T. Blanford, "On the Nature and Probable Origin of the Superficial Deposits in the Valleys and Deserts of Central Persia," *Journal Geological Society*, London, vol. 29, 1873, pp. 493-503; P. M. Sykes, "Ten Thousand Miles in Persia," London, 1902, p. 364; Vredenburg, "A Geological Sketch of the Baluchistan Desert, etc." *Mem. of the Geological Survey of India*, vol. XX, XII, pt. 2, 1901.
- (35) Such as Neolithic flint arrow-heads, knife blades and coarse pottery in one of the ancient deltas of the now dried up Lop-sea; and in other places, arrow-heads and jade celts. Stein pp. 135 and 149.
- (36) Owing to lack of space a detailed discussion of Central Asian desiccation and the distribution of cereals and fauna has been deleted.
- (37) C. 3500-3200 B.C. according to Woolley
- (38) See E. Mackay, "Further Links between Ancient Sind, Sumer and Elsewhere," *Antiquity*, December, 1931, p. 459.
- (39) In one instance the beads found in both sites were decorated with single circles.
- (40) The lowest levels of which belong to the Indus Valley culture.
- (41) Mackay, *Kish*, pl. 60, f. 55.
- (42) *Ut supra*, pl. 60, f. 62.
- (43) Mackay, *Antiquity*, pp. 460-461.
- (44) *Archæologia*, 1929, LXXIX, 144.
- (45) *Museum Journal*—Univ. Penn. XX, Nos. 3-4, pl. v.
- (46) Mackay, *Antiquity*, pl. 3, facing p. 459.
- (47) A. Graves—c. 3100 B.C.
- (48) M.-D., pl. 149, figs. 1-3; 151 (*f. b.*)
- (49) *Temp.* 4th Dynasty, Egypt, c. 2900-2750 B.C.
- (50) *Illustrated London News*, 21st February, 1931, p. 296.
- (51) Excavated by M. de Mecquenem, M.D.P., t. xx, 113, f. 19 (6-9).
- (52) Mackay, *Kish*, p. 463, etc.
- (53) M.-D., pl. 153, f. 7-10.
- (54) 1 opposite 2, 3 : 4, 5 : 6 : Mackay, *Antiquity*.
- (55) Mackay, *ibid.*, p. 464; M.-D., pl. 153, f. 40, 41.
- (56) Mackay, *Kish*, p. 206, pl. 44, f. 2.
- (57) M.-D., pl. 152, f. 16, top.
- (58) Dated 3500-3200 B.C., by Mr. Woolley.
- (59) J. de Morgan : *La Préhistorique Orientale*, t. 11, p. 266, fig. 293.
- (60) M.-D., pl. 83, f. 20.
- (61) M.-D., pl. 156, f. 26/29.
- (62) M.-D., pl. 84, f. 3-18.
- (63) Mackay, *Kish*, pl. 54, f. 36.
- (64) M.-D., pl. 96, f. 5, 6.
- (65) *q.v.*, pl. 96, f. 1.
- (66) M.D.P. t. 7, pl. 25, f. 1, 2.
- (67) Hall and Woolley, *Ur. Excavations*, 1, pl. 33.
- (68) *Antiquity*, p. 467.
- (69) *q.v.* pl. 153, f. 24.
- (70) c. 3500-3200 B.C. Woolley, *Antiquaries Journal*, x, pl. 41A.

- (71) According to Mackay, *Kish*, p. 470, not earlier than 3100 B.C.
 (72) M.-D., pl. 130, f. 35.
 (73) M.-D., pl. 118, f. 5.
 (74) Petrie, *Buttons and Design Scarabs*, pl. 8, f. 129-30.
 (75) M.-D., pl. 91, f. 9, 10.
 (76) Dated 3500 B.C., according to Albright, *Man*, March, 1926, pl. c., f. 1.
 (77) M.-D., pl. 159, f. 1, 2.
 (78) Stratum E. before 3500 B.C.; *Antiquaries Journal*, x, 331 and 339.

DISCUSSION.

THE CHAIRMAN (Dr. K. B. Aikman) said: This very able paper shows how fashions change. Discoveries in Africa produced the African Theory. This paper, on the other hand, shows how much evidence, both old and recent, there is which favours the Asiatic Theory. I was specially impressed by references to the climatic changes in Europe and Asia, and should like more light on the contemporary changes in Africa. The philological evidence seems difficult to overcome.

One real difficulty has not been stressed. Even allowing for geologists' errors, the origin of man has been pushed back enormously beyond the usual ideas of the Adamic Creation. We find primary races—Caucasians, Mongolians, Negroes, whose differences would entitle them to rank as Species rather than varieties, if any organism, other than man, were under consideration. Either on the Evolutionary Theory or on the Creation Theory, we must postulate an extremely remote ancestor from which these three all-but "species" became differentiated. Even on the Creation Theory this must be so, for there is no record of the separate creation of White, Yellow and Black.

Whether regarding it from the Evolutionary or from the Creation standpoint, therefore, we must admit that the last word has not yet been spoken. There is no possibility yet of a final decision, and we are under a very real debt to Mr. Gair for his very able and scientific presentation of recent discoveries and evidence. These may yet prove sufficiently weighty to swing the pendulum until the Asiatic Theory once more holds the field, and when it does, I am sure it will be largely owing to the labours of Mr. Gair to whom I have much pleasure in proposing a hearty vote of thanks.

Lieut.-Colonel L. M. DAVIES, F.G.S., F.R.S.E. : This is a very interesting paper, collecting together many facts, brought out by workers in the East, to show that the chief modern civilizations are traceable to an Asiatic, and not to an African, origin. It is a pity that lack of space compelled Mr. Gair to cut out much of the evidence which he had originally collected to this effect.

Dealing only with relatively recent developments, the paper may not itself dispose of the African hypothesis as to man's *origin*, for the latter involves appeal to far earlier remains (Chellean and pre-Chellean) than the post-palæolithic data mainly referred to by Mr. Gair ; but even if we allow (as it seems that we must) of an extensive palæolithic distribution of mankind, not only in Africa but all over the world, it is at least remarkable to find that we have such good evidence of an *Asiatic origin for our post-palæolithic civilization*. It recalls the fact, definitely stated in the Bible, that, after the world disaster of the Flood, mankind made a fresh start (in the persons of the descendants of Noah) in Asia, for even Mesopotamia was subsequently colonized by them as they journeyed " from the East " (Gen. 11, 2) ; just such a migration as is pictured by Mr. Gair.

We cannot safely argue that mankind must have taken untold ages to split apart into its existing varieties. As regards the more marked peculiarities of the negro type of mankind, I would remind the Chairman that, on the theory of Creation, it may well be the case that species, like individuals, are more plastic in their youth, and even on the theory of evolution (to which I do *not* subscribe) it by no means follows that periods of rapid change may not be followed by much longer ones of relative stability. An extreme age for man, therefore, if it is to be proved, will have to be established by geological facts and not by inductions from present morphology.

Mr. SIDNEY COLLETT : I am sure we must all wish to express thanks to the learned lecturer for the paper he has read. The lecturer has given us the names of a number of scientific men who have gone into this question very closely. They have visited different parts of the earth, and have dug up bones and skulls and teeth, and flint implements, and examined monuments, etc., and, instead of coming to a unanimous conclusion we find them divided

into three distinct schools. One of these schools declares that the cradle of mankind was in Europe ; another school declares, with equal certainty, that it was in Africa ; while a third is equally sure that it was in Asia.

What are we to do ? We cannot all go round the world digging up bones and fossils and flint implements.

In Genesis 2 I read that when God created man He placed him in Eden. So that we know on the authority of God's Word that wherever Eden was there was the cradle of mankind. Hence the pressing question is : Where was Eden ? And the answer to that question is not difficult, for in that same chapter we read that a river went out of Eden and was parted and became into four heads, one of those heads being the Euphrates. While it must readily be acknowledged that at the time of the Flood there must have been tremendous upheavals of the surface of the earth, causing great changes in the *courses* of various rivers, it is unthinkable that a whole mighty river, such as the Euphrates could be lifted out of one continent and transferred to another. So that the cradle of mankind must have been somewhere in the neighbourhood of the Euphrates.

Now we know that the Euphrates is *not* in *Europe*, so the cradle of mankind could not have been in Europe. Secondly, we know that the Euphrates is *not* in *Africa*, so the cradle of mankind could not have been there ; but we also know that the Euphrates *is* in *Asia*. So the cradle of mankind *must* have been in *Asia*.

Colonel F. MOLONY, O.B.E., R.E., said : Speaking of great alterations in our climate, Mr. Gair says : " The Flood legends of the Chaldeans are all references to actual events which happened at periods of greater snowfall and more pluvial conditions," and " The aridity of Central Asia clearly seems to be correlated with the increase and decrease in the size of the lakes and oceans once existing in greater numbers than to-day. This phenomenon was undoubtedly due to particular regimen of cyclonic activity, and in turn may be associated with the advance and retreat of the glaciers of the high mountains of Central Asia."

Does Mr. Gair consider it probable that Noah's flood may have been caused by the break-up of a glacial dam at the outlet of Lake

Van during a period of heavy rain ? The area of Lake Van is 1,476 square miles. But a shore line has been noted 100 ft. above its present level, which would make its area 1,771 square miles. If this 100 ft. ran off suddenly it would send a flood of 30 cubic miles of water down the Tigris, and such a flood would take several months to run off the flat plain of Iraq—as described in the Biblical account of Noah's flood.

LECTURER'S REPLY.

It is quite possible that a breaking up of a lake in the neighbourhood of the present Lake Van might have produced results such as Colonel Molony speaks of ; but my main contention has rather been to discuss a wider area of pluvial and desiccation activity, namely, the whole of inner Asia, and to correlate that with the traditions, racial movements, cultures and the languages of the peoples.

778TH ORDINARY GENERAL MEETING,

HELD IN COMMITTEE ROOM B, THE CENTRAL HALL,
WESTMINSTER, S.W.1, ON MONDAY, APRIL 9TH, 1934,
AT 4.30 P.M.

MRS. JOHN EVERSHERD, F.R.A.S., IN THE CHAIR.

The Minutes of the previous Meeting were read, confirmed, and signed, and the HON. SECRETARY announced the election of Mrs. A. H. Murray, M.B.R., Lady Lubbock, M.A., and the Rev. T. E. R. Phillips, M.A., F.R.A.S., as Associates.

The CHAIRMAN then called on the HON. SECRETARY, who, on account of Mrs. Maunder's recent illness, had kindly undertaken to read her paper on "Early Hindu Astronomy."

EARLY HINDU ASTRONOMY.

By Mrs. WALTER MAUNDER, F.R.A.S.

SOMETIME about 2000 B.C., the Indo-European nations were migrating to the South, East and West. Amongst those who crossed the Hindu Kush into the Panjab were the "Aryans," a name which the immigrants, both into Hindustan and (later) into Persia, ascribed to themselves. It is with the former Aryans that my present paper deals, and I will call them the "Hindu Aryans" to distinguish them from the aboriginal inhabitants of the Land of the Seven Rivers. The other tribe I will call the "Persian Aryans," but I want here to state that during part, at least, of the period covered by my paper, I have more than a suspicion that both Aryan tribes were living together in the Panjab.

Concerning early "Hindu Aryan" astronomy I must attempt to answer three questions: (1) How much did the immigrants learn from the people of the land?; (2) How much did they bring with them?; (3) How much did they work out for themselves when established in the Panjab? Three years ago, I could have made no answer to the first and but little to the third. But

since then Sir John Marshall has published the results of the excavations at Mohenjo-daro on the Indus. This town ceased to be, from meteorological reasons, about 2500 B.C., but its seven distinct strata must have reached back many centuries; its history was continuous and showed through one or more milleniums an almost unchanging condition of high material culture, wealth and luxury, with evidence of extensive trading with other countries, not only over the Indian Peninsula but also towards the N.W. and S.W. of Asia, yet there was no evidence of war, offensive or defensive; they were peaceful unarmed traders, a Chalcolithic people whom Sir John Marshall considers essentially similar to the contemporaneous Chalcolithic nations in Sumer and Egypt, both in culture, in religion and in philosophy. I have searched through all the figures, impressed or painted, on the Mohenjo-daro seals, pottery or picture-writing,* and I have not found even so simple and obvious an astronomical symbol as a crescent moon or a stellate figure, though as a great trading nation they must represent a wider civilization than their own. There is only this: their main streets were oriented to the cardinal points; they ran due north and south, or due east and west; just as the Ziggurats of Ur were so oriented as far back as 5000 B.C., and in Egypt the pyramids (here with marvellous accuracy) were so oriented at 3000 B.C. or earlier. I should indeed be grateful for indubitable evidence of astronomy, other than this, in any of these three countries. We must take it, therefore, that the Hindu Aryans brought their astronomy with them. What astronomy did exist before 2000 B.C.?

(1) The earliest *reproduction* of an astronomical symbol of which I know, so far, is on the victory stele of Naram Sin,† but its original must go back much earlier than this, since it could have served as the sign of the new year from 4000 B.C. It is the picture of the Spring New Moon (lying on its back like a dish or chalice) in a line with and beside the Twin Stars that we now call Castor and Pollux. This Triad was for that early time (from 4000 to 2000 B.C.) the simplest means for recognizing the beginning of the year, and it gave a luni-solar one of 12 or 13 months. Gradually the Triad drew away from the spring equinox through precession, falling later until about 2000 B.C. it was a month late.

* As given in Sir John Marshall's *Mohenjo-daro and the Indus Civilization* (Arthur Probstain, London, 1931).

† Naram Sin, of the Dynasty of Agade, reigned from 2671 to 2634 B.C.

As accident served, the place of the Twins could then be taken by Capella,* “the Goat-Star” carried on the shoulder of the Charioteer.

(2) Professor Stephen Langdon and Dr. J. K. Fotheringham, in their “Venus Texts of Ammizaduga”† give what may be taken as a sample of the extensive observation of planets about 2000 B.C. in Mesopotamia. I may, however, note here that in the period of Early Hindu Astronomy within the limits of my paper, I find no certain reference to any planet.

(3) The constellations were devised about 2900 B.C. by unknown astronomers whom Aratōs‡ calls “the Elder Race”; they were designed for the purely astronomical purpose of giving place-names to the chief naked-eye stars, and they constitute the earliest star catalogue. They serve their original purpose to-day.

In the “Phænomena of Aratōs,” with respect to the Zodiac there are given, 20 constellations north of it; 12 constellations in it; and 15 constellations south of it—47 in all. Ptolemy also gives the same three series, but with two important variations: 21 constellations north of the Zodiac, the extra one being a Horse’s Head which is placed as a double to the head of Pegasus; 12 in the Zodiac, but a Balance instead of the Scorpion’s Mighty Claws; and 15 south—48 in all. It is evident that these two constellational schemes are variants of the same original, and were handed down independently through Aratōs and through Ptolemy. I may add that the Elder Race astronomers who compiled the original star catalogue were neither Semitic nor Egyptian, but were members of the Indo-European peoples before ever they separated into their European and Asiatic divisions. I could give you strong evidence for this, but it does not come within the scope of my paper.

Nineteen years ago, to-day, I gave you an address in which I showed that the Persian Aryans had, at some time, resided within the Arctic Circle (“the best of all lands” to them). From this point of view they conceived of “three worlds”—Heaven, the Earthly Paradise, and Hell—one of which was circled out

* This method of determining the first day of Spring, with Capella as indicator, is actually described on a Babylonian tablet.

† Ammizaduga of the Babylonian Dynasty, reigned from 1921 to 1901 B.C.

‡ Aratōs: *Phænomena*, line 16.

in the sky by the seven Plough Oxen, the next was circled on the earth by the rampart of the Arezur mountains and contained Yîma's* four-cornered Varena where the Heroes live, and the third was Hell hanging below the northern horizon like a dark reflexion of Heaven; all three meeting on the northern ridge of Arezur "at the gate of hell where they always hold the concourse of the demons." The king of these Persian Aryans in the Arctic land was Yîma who brought his people south again in three great migrations—he made the world three times greater than before. The Persian Aryans noted a latitude† where the winter night is twice the length of the winter day, and the division thus made of the period "dawn to dawn" was a division not of 12 hours (as in Mesopotamia) or of 24 hours (as in later Egypt) but of 18 hours. At the equinoxes this would mean nine hours of the day and nine hours of the night. I then made the suggestion that this latitude marked the limit of Yîma's third wide stride.

I want you to go back with me to an encampment of those old "Aryans" (our great uncles if not our forefathers) so far within the Arctic Circle that the sun remained below the horizon at the winter solstice for a month or six weeks; and at an epoch about 4,500 years ago. The mid-winter sun was then in the constellation Aquarius which was therefore below the horizon all the year round. (We have some reason to believe that at this epoch these weeks of mid-winter darkness enjoyed mild and "fair bright weather.") Where such was the case, these old Aryans could see all 20 constellations north of the Zodiac (or 21 if they reckoned the number as Ptolemy did) with the Dragon‡ twined round the two Wains, almost overhead; 11 out of the 12 Zodiacal constellations; and one constellation, only, south of the Zodiac, namely, Hydra, the long-drawn out Watersnake§ skirting the horizon round and round just below the constellation Leo. In all they could see 32 of the 47 constellations if they reckoned with Aratōs, or 33 of the 48, if they reckoned with Ptolemy.

The Persian Aryans certainly witnessed these when in that far north region. Did the Hindu Aryans ever experience this

* Yîma the Glorious is the Jamshyd of the later Persians and the Yama of the Hindus.

† North Latitude 49°.

‡ *Ahibudnya*: "Dragon of the Deep."

§ I think *Aja-Ekapod*: "the Unborn One-footed One" is an apt description of this.

sight also? There is some tradition among them of a colder, more northerly home; the two tribes had heroes in common. Yîma always remained a man; Yama became, to the Hindu Aryans, the god who ruled over the dead Fathers. A mysterious being, Trita Aptya, who inhabited the northern sky of the Hindu Aryans, is Thraetona, son of Âthwya, of the Persian Aryans. But keep this in mind:—to the Hindu, Yama and Trita Aptya were gods or at least demi-gods; to the Persians, Yîma, Âthwya, and Thraetona or Thrita were men, though heroic men.

To solve these questions we must go to the oldest Hymns of the Hindu Aryans, 1,028 in number, contained in 10 *Maṇḍalas* (or Circles) or Books. The Hindus were polytheists, worshipping the gods of the sky, of mid-air, and of the Earth. It is especially the gods of the sky that concern us now: these and Indra who was both the god of the country and of the seasons.

I read the *Rig-Veda* through several times before it was forced upon me that neither the Ten Books, nor the 1,028 Hymns individually were in any sort of chronological order. It seemed impossible to guess which were early and which late, and the authorities were as much in the dark as I was; the limits of dates suggested were from 2000 to 500 B.C.; the probable error of these limits was summed up in Clayton's statement: "there is not sufficient evidence to show the exact occasion of any single hymn in the whole collection."*

In this matter, therefore, I have had virgin soil to work on. In most of the Hymns there is no hint as to who made them, but the name of each Hymn's author is preserved in the *Anukramanî*, or Index to the Contents of each Veda, handed down from very ancient times. Some of the begetters of the Hymns sang whole *Maṇḍalas*, some only a few, or may be a single one. To start with, it mattered nothing to me, who made which Hymn, as all names were alike unknown, but they served to bind together a fair amount of material composed presumably within the lifetime of a single man. The knowledge from one such series at an epoch could be compared with the knowledge at another epoch, and a relative chronological order suggested. It was only at first, however, that the authors mattered nothing, for soon the uncouth and unfamiliar names gathered personal interest and sentiment. I began to have prejudices; to like

* *The Rig-Veda and the Vedic Religion*, by A. C. Clayton, p. 39.

and admire or pity; to dislike and condemn or pity those real men and women—even the demi-gods and goddesses; I took sides in their petitions and their quarrels; I judged their gods by the characters of the men who worshipped them; I blamed the gods who played them false; I watched Indra grow from a mere Clerk of the Weather to be the supreme god of the Panjab, to be the very king over the Lords of Pride, until when I went on to read the *Māhābhārata*, I was fully prepared for his overthrow by Śiva, for that very pride. No Hymn was dull when I knew who begged it, and to what deity it was addressed.

I will try to show you how I set about getting the Hymns of these old Rishis into a sort of relative chronological order. My rules are so simple as to be almost platitudinous. Where two Rishis stand in the relation of father to son or grandson, I assume that the father was at least several years the senior of his descendant; where two Rishis each mention the other, I assume that they are contemporaries; where only one mentions the other, I take it that the former is later or at most contemporary of the latter. In a similar fashion I treat the men, places, deities, subjects and such like where mentioned by Rishis. Especially I take account of the subject when astronomical—whether it is observational or mythical, traditional, or of necessity late in its epoch. By this simple “trial and error” method I got the Hymns, or rather the Rishis who made them, into a rough chronological order; and each new subject gave me matter for a better rearrangement of the order.

I will begin with the Rishi Śunaḥṣepa* though he may not be the earliest. “Bound to three pillars, captured Śunaḥṣepa” prays: “O Varuṇa, † Wise Asura, thou king of wide dominion . . . loosen the bonds above, between, and under.” Varuṇa hath made a “pathway for the sun to travel”; whither by day depart the constellations that shine by night set high in heaven above us? Varuṇa’s holy laws remain unweakened, and through the night the Moon moves on in splendour; and “True to his holy law, he knows the 12 moons with their progeny: he knows the moon of later birth”; “Varuṇa, wearing golden mail, hath clad him in a shining robe; his spies ‡ are seated round

* *Rig-Veda*. Book I, Hymns 24–30.

† Varuṇa means “heaven” or the night sky, wise Asura being a literal rendering of *Ahura-Mazda* of the Zoroastrians.

‡ The stars are the rivets of his golden mail and also the “spies” which look out upon unrighteousness.

about"; "Now see I him whom all may see. I saw his car above the earth; he hath accepted these my songs." This Hymn is to Varuṇa, and the next is to the Aṣvins, the Twin Horsemen: "Come Aṣvins . . . your chariot yoked for both alike, immortal, ye of mighty acts, travels, O Aṣvins, in the sea. High on the forehead of the Bull, one chariot wheel ye ever keep, the other round the sky revolves."

We infer from the astronomical statements in these two songs that the luni-solar year and the method of the Triad were still in use in the time of Ṣunaḥṣepa: The *Twin stars*, themselves, are fixed on the forehead of the Bull in the night sky, but the third member of the Triad, the Moon, revolves round the heavens each month.

Next I take Atri Bhauma,* a Brahmin or praying priest. He was, once, offering up the noon-day libation to Soma at the proper season (at the latter end of June) when the Soma stalks are swept down the swollen rivers. But at that very moment the Sun was blotted out by "Svarbhani's magic,"† and by his fourth sacred prayer, Atri "discovered Surya‡ concealed in gloom that stayed his function." This is obviously an account of a solar eclipse, and the Hymn is addressed to Indra (the god of the seasons), to Surya (the Sun), and to Atri (the Rishi's ancestor). Atri Bhauma, like the Zoroastrians of later date, was apt to magnify qualities or attributes into personalities, as for example: *Urvasi* or "Fervour"; *Vāja* or "the strong"; *Ribhukshan* or "the Lord of the skilful ones":—"May the House-friends, the cunning-handed Artists, the Streams carved out by *Vibhvan* . . . befriend us." All these in a Hymn to the Visvadevas,§ and the idea is that of a Master Carpenter fabricating, for *Vibvatashṭān* means a "Master's hand hath fashioned" and *Ribhum* means "handy." From this it came about that Indra (now or later) annexed the title of *Ribhukshan*.

In Atri Bhauma's Hymns there is no hint that the ancient time method or calendar was getting out of reckoning with the monsoon season; perhaps he assumed that all things must be going right since the gods had answered his "fourth sacred prayer."

* Book V, Hymn 43.

† Svarbhānu is said to be the "Asura's Descendant."

‡ Surya: the Sun.

§ Book V, Hymn 42; the *Visvadevas* are the "All-Gods."

It was otherwise with Trita.* In the *Hôm-yast*,† it is related that *Homa*‡ came to Zoroaster and told him that the first *man* who prepared *homa* for the incarnate world was *Vivanghvant*, and for this a son, *Yîma*, was born to him; that the second *man* was *Áthwya*, and to him was a son, *Thraëtona*; that the third *man* was *Thrita*. In the *Rig-Veda* we find both *Trita Aptya*, who is a *god*, and *Tritā*, who is a *Rishi*, and it is this latter who prays: "O never may that light, ye gods, fall from its station in the sky, ne'er fail us one like Soma sweet, the spring of our felicity . . . where is the ancient law divine? Who is its new diffuser now? Ye gods who yonder have your home in the three lucid realms of heaven, what count ye truth and what untruth? . . . What is your firm support of law? What *Varuṇa's* observant eye? How may we pass the wicked on the path§ of mighty *Aryaman*? I am the man who sang of old full many a laud when Soma flowed, yet torturing cares consume me as the wolf|| assails the thirsty deer . . . where those *seven rays*¶ are shining thence my home and family extend. This *Trita Aptya*** knoweth well, and speaketh out of brotherhood. May those five Bulls†† which stand on high—full in the midst of mighty heaven . . . return. High in the mid-ascent of heaven, those Birds‡‡ of beauteous pinion sit . . . Back from his path they drive the wolf|| as he would cross the restless floods . . . The flowing of the floods is law . . . that pathway of the Sun in heaven . . . is not to be transgressed O Gods. O Mortals ye behold it not . . . a ruddy wolf|| beheld me once, as I was faring on my path. He like a carpenter§§ whose back is aching crouched and slunk away."

* Book I, Hymn 105.

† The *Yasna* is the Chief liturgy of the Zoroastrians, and the *Hôm-yast* is *Yasna IX*.

‡ *Homa* is the "Zend" word, cognate of the Sanskrit *Soma*. In the *Rig-Veda*, *Soma* is both the name for the Moon, and for the *Amrita* or sacred drink that confers immortality on gods and men.

§ The Milky Way.

|| *Lupus*.

¶ The Seven Plough Stars.

** *Trita Aptya*, according to the Hindu Aryans "a mythical being who dwells in the remotest part of the heaven," and the *Rishi Trita* recalls his ancient northern home.

†† *Cassiopeia*.

‡‡ *Aquila*, *Vega*, *Cygnus* and perhaps also *Pegasus* as being winged.

§§ *Tvashtar* the ancient artificer of the gods who had shaped the *Aṣvins* three-fellied car; he has now become like an old, worn-out Carpenter.

The astronomical interpretation is this: Trita calls upon the gods to witness that the flowing of the floods is law, yet that law on Earth is no longer in accord with the ancient law in the sky. The Soma in the rivers is not now to be gathered at the time told by the stars of old.

Next I take the Rishi Hiranyastupa (though strictly speaking he should come later), because in his Hymns he embodies several of the old traditions. To Savitar, the sun who revives all things, he says :* “ Three heavens there are ; two Savitar’s, adjacent : in Yama’s world is one, the home of heroes. As on a linch-pin, firm, rest things immortal ; he who has known it, let him here declare it.” But these three worlds are just those whose nature I had so laboriously assembed from various ancient Persian books, 19 years ago. And Hiranyastupa’s description is not laboured, it is a gem of concise poetry.

In his hymn to the Aṣvins :† “ Three are the fellies in your honey-bearing car, that travels after Soma’s loved one as all know.” This is the Triad of the Twin Aṣvins and the Moon like a dish or chalice. Soma is the name both of the Moon, and of the Moon’s loved one, *Amrita*. Hiranyastupa clings to the old Aṣvins tradition, and the Aṣvins have a peculiar title *Nâsatyas*, derived by Indian commentators from *na + asatya* ; “ not untrue.” This title they had borne at least since the 14th century B.C., and I think owes its derivation to the counter assertion of the faithful to those who said that the Aṣvins-cum-Moon calender was become inaccurate. So, too, Hiranyastupa sings :‡ “ Come, O Nâsatyas with the Thrice-Eleven Gods ; Come, O ye Aṣvins to the drinking of the meath. Make long our life, and wipe out all our sins : ward off our enemies ; be with us evermore.” We find not only in Hiranyastupa but in the Hymns of other Rishis, the “ All-Gods,” sometimes given the title of the “ thrice-eleven ” sometimes of the “ three and thirty gods.” Such a precise number together with the fact that the Aṣvins acted as the leaders, forces us to see in these gods of the heavens, the “ universal gods ” those 33 constellations seen by their ancestors when within the Arctic Circle. And the tradition that they brought with them was the one which has reached us through Ptolemy, and not that through Aratōs.

* Book I, Hymn 35, verse 6.

† Book I, Hymn 34, verse 3.

‡ *Ibid*, verse 11.

I was much confirmed in my judgment of 19 years ago when I learnt from Hiranyastupa that he knew of the three worlds of Yīma known to the Persian Aryans. But I was wholly taken by surprise when I also found a confirmation that the day with 18 divisions had been made by Yama. Two Rishis refer to it : Gauriviti writes :* “ Man’s worship of the gods hath three great lustres ” or *tryāryamās* = three *yamas* or night watches of three hours each. So to Brahmatithi, says of the Aṣvins† “ wherewith the three wide distances and all the lights that are in heaven ye traverse, and *three times of night* ” ; again the three *yamas* of three hours each.

To return to the “ 33 gods ” we find that the Rishi Gotama‡ says of the great god Indra :§ “ He, searching for the Horse’s Head, removed among the mountains found at Saryanāvân|| what he sought. Then verily they recognized the essential form of Tvashṭar’s Bull, here in the mansion of the Moon.” It was this passage that brought me up all standing, for it was long before I could bring myself to believe that here, early in Book I of the *Rig-Veda*, a Rishi was taking for granted, almost casually, the biggest revolution in astronomy that had occurred since the constellations themselves were devised. It was longer still before I came to the conclusion that this astronomical revolution which took place very nearly at the date 700 B.C., was itself the work of Hindu Aryan astronomers. It amounted to a *re-discovery* of precession ; the first (perhaps) discovery of it was when the constellations were devised ; the third discovery was by Hipparchus in 128 B.C. This great work of the¶ Hindu Aryan astronomers was the division of the Zodiac into 27 *equal* parts. called nakshatras or stations (mansions) of the moon ; the division of the Zodiac into constellations in 2900 B.C. was a very irregular division as regards the size of the parts. Now in the nakshatras thus devised in 700 B.C., the first nakshatra was named *Aṣvini*

* Book V, Hymn 29, verse 1.

† Book VIII, Hymn 5, verse 8.

‡ Gotama is not the Buddha Gotama of the Buddhist faith, but he may have been his ancestor.

§ Book I, Hymn 84, verses 14 and 15.

|| A lake and district near Delhi.

¶ See “ The Sothic Cycle or the Nakshatras ” by A. S. D. Maunder, F.R.A.S., *British Astronomical Association Journal*, Vol. 43, No. 3, p. 121 When I wrote this paper I did not know who these Hindu Aryan Astronomers were.

and it was figured as a Horse's Head. The new method thereby seems to intimate that it was a reformation of the ancient and now inaccurate Triad, rather than a negation of it.

Though, evidently, the Rishi Gotama lived soon after the event, he does not name the astronomers, but his sons, the Rishis Nodhas and Vamadeva do. These great astronomers were the three sons of Sudhanvan. It was, however, the Hymn of a blind Rishi Dirghatamas of a later date (I think) that so haunted me by its metre and its content, that I could get no rest until I had solved its riddle.

- *1. Why hath the Best, why hath the youngest† come to us ?
Upon what Embassy comes he ? What have we said ?
We have not blamed the Chalice of illustrious birth.
We, brother Agni, praised the goodness of the wood.
2. The Chalice that is single made ye four ; thus have the gods commanded ; therefore am I come. If, O Sudhanvan's Children, ye will do this thing, ye shall participate in sacrifice with Gods . . .
4. Then Tvashtar‡ when he viewed the four wrought chalices, concealed himself among the Consorts of the Gods.
5. As Tvashtar thus had spoken, Let us slay these men who have reviled the chalice, drinking-cup of Gods : They gave themselves new names when Soma juice was shed, and under these new names the Maiden§ welcomed them.
6. Indra hath yoked his bays, the Ašvins car is horsed, Brihaspati|| hath brought the cow of every hue. Ye went as Ribhu, Vibhvan, Vāja to the Gods, and skilled in war, obtained your share of sacrifice.
8. Drink ye this water were the words ye spake to them ; or drink ye this the rinsing of the Munja-Grass. If ye approve not even this, Sudhanvan's sons, then at the third libation¶|| gladden ye yourselves.

* Book I, Hymn 161.

† Agni, the God Fire.

‡ Tvashtar was the artificer of the Gods who had made (like a Carpenter) the Ašvins' Car.

§ The Maiden is Ushas the Dawn, in this case, the first dawn of the year.

|| *Brihaspati* : "Lord of Prayer" in later times identified with the planet Jupiter.

¶|| The third libation or evening one at which Soma was offered to the new made Gods, Ribhu, Vāja, Vibhvau.

I have no doubt that the new names—Ribhu, Vâja, Vibhvan—which these astronomers took, were from Atri Bhauma's Hymn,* and by these names they were deified. Indra became their Lord, and under the name of *Indra Ribhukshan*, he waxed exceedingly mighty until, even in *Rig-Veda* times, he was acknowledged as the supreme god.

But concerning the acts of the Ribhus (as they were called collectively), the Rishi Vamadeva has interesting information† to give:—

5. Two beakers let us make—thus said the eldest. Let us make three—this was the youngest's sentence. Four beakers let us make—thus spoke the youngest. Tvashtar approved this rede of yours O Ribhus.
6. The men spake truth and even so they acted: This godlike way of theirs the Ribhus followed. And Tvashtar when he looked on the four beakers, resplendent as the day, was moved to envy.
7. When for 12 days the Ribhus joyed reposing as guests of him who never may be hidden; they made fair fertile fields, they brought the rivers. Plants spread o'er deserts, waters filled the hollows."

Ribhu proposed two beakers—that is the moon's chalice near the summer and winter solstices. Vâja hankered after the old tradition of three—make, said he, a reformed Triad. Vibhvan, the Master Architect said four beakers—two at the solstices, two at the equinoxes.

More interesting still "the Ribhus joyed reposing as guests" of Savitar the sun. In other words, they dropped 12 days out of the calendar of a particular year, just as we dropped 11 days between September 2 and 14 in 1752. If (as we must suppose) the dropping of 12 days took place near the date 700 B.C., and so the calendar was brought into line with the actual seasons, it involves that the Hindu Aryans must have established themselves in the Panjab, about 900 years earlier, that is to say the tribes were crossing the Hindu Kush into the land of the Seven Rivers shortly before 1600 B.C.

I have answered the three questions that I set myself, and have told of early Hindu astronomy down to the great work of the

* Book V, Hymn 42.

† Book IV, Hymn 33, v. 5 *et seq.*

sons of Sudhanvan in 700 B.C. I have only dealt with less than a dozen of the Hymns. Some before, some after that crucial date. I have indeed just picked out some that afford astronomical information. It is not to be thought for a moment that the *Rig-Veda* is an astronomical compilation; the vast majority of the Hymns are later than 700 B.C., and concern themselves with intertribal battles, and forays in the Panjab, or incursions into the Dasyu land east of the Jumna up to the Ganges. A few precise dates—were these to be found—would bring the whole of the past from 700 B.C. into line *as history*.

It is always a joyous thing to find faults in the work of one's predecessors; thereby progress is made. And when—as in the present case—my predecessor is myself, then—to use a frequent expression in the *Rāmāyāna*—I “experienced an excess of delight.” For this is a passage from blind Dirghatamas: “Dirghatamas* the son of Mamatá hath come to length of days in the tenth age of human kind. He is the Brahman of the waters as they strove to reach their end and aim: their Charioteer is he.”

Here is the Zoroastrian “12 ages of mankind” put back to some time between 700 and 500 B.C. and in Hindustan:—the “Time was 12,000 years” which in my paper of 19 years ago, I put into our own era as due to a misapprehension of Hipparchus' discovery of precession in 128 B.C. Moreover, we must remember that the Tenth Age† was ushered in by “the coming of the religion,” that is when Zoroaster brought in the Faith, and here we have Dirghatamas who was almost a contemporary of the Persian Sage, singing his Hymn. Truly, the period 700–500 B.C. was one of intense interest all the world over—and a troublous one.

DISCUSSION.

The CHAIRMAN (Mrs. M. A. Evershed, F.R.A.S.), in introducing Mrs. Maunder, said she was already known to the Victoria Institute, even as she was known to astronomers all over the world by her sunspot observations, her valuable and varied work for the British Astronomical Association, and her research into the beginnings of astronomy.

* Book I, Hymn 158, verse 6.

† The Tenth Age begun very nearly at 600 B.C.

Astronomy (the Chairman continued) has its beginnings always and everywhere, for sun, moon and stars are our time-keepers, our calendars and our guides by land and sea. The races lowest in the scale of civilization study the movements of moon and sun, and know and name some of the brightest stars : the ancient civilizations mapped out the whole sky into star-groups. Egypt had her constellations, but they are not ours ; China has hers, but they are not ours ; Babylonia had hers, and they are ours, for we have them through the Greeks. But did Babylonia invent them or receive them from elsewhere ? We shall follow Mrs. Maunder's paper better to-day if we recall how she and Mr. Maunder laid a sure foundation for investigating this problem.

Mr. and Mrs. Maunder showed—what Proctor had already suggested—that the 48 ancient constellations tell us themselves where and when they were invented. They have a southern limit, beyond which obviously the observers could not see, and this limit, which is roughly a circle of latitude, gives us the latitude in which the observers lived. They lived at about 40° north. Further, the circle is lop-sided round the present celestial pole, but symmetrical to the pole of about 3000 B.C. So the constellations were formed about 3000 B.C.

This latitude seems to rule out Babylonia, and Mrs. Maunder began to look elsewhere. Years ago she gave you the results of her search into ancient Persian and Hebrew books. Later she studied the Vedas of India, and I will ask that we may now hear about this study and its results.

The Chairman thanked Mrs. Maunder heartily for her very interesting paper, and also returned thanks to the Hon. Secretary for reading it.

The Chairman then commented briefly on the paper, noting what an immense amount of work it represented, and how ingenious were some of the interpretations of the extracts from the Rig Veda. She was particularly interested in the suggestion that the Hindu Aryans had at one time lived within the Arctic Circle, because she had already heard this many years ago in India. An assistant at Kodaikanal Observatory, Mr. Sitarama Aiyar, who read the Vedas in the original Sanscrit, had said to her that from them he understood that his ancestors had come from the Polar Regions.

779TH ORDINARY GENERAL MEETING,
HELD IN COMMITTEE ROOM B, THE CENTRAL HALL,
WESTMINSTER, S.W.1, ON MONDAY, APRIL 23RD, 1934
AT 4.30 P.M.

SIR AMBROSE FLEMING, D.SC., F.R.S., PRESIDENT,
IN THE CHAIR.

The Minutes of the previous Meeting were read, confirmed, and signed, and the HON. SECRETARY announced the election of Frederick E. Mitchell, Esq., and Lady Olive May Fleming as Associates.

The CHAIRMAN then called on Sir Charles Marston, F.S.A., to read his paper on "New Bible Evidence."

NEW BIBLE EVIDENCE.

By SIR CHARLES MARSTON, F.S.A.

DURING the last eight years a quantity of evidence has been brought to light which tends to confirm the Old Testament. Some of those present will be familiar with my book entitled *The New Knowledge about the Old Testament*. This is an opportunity to supplement some of its contents. Certain conclusions of Dr. Langdon, Professor of Assyriology at Oxford, arrived at through the study of quantities of cuneiform literature, need even more emphasis than is accorded them in my book.

In the preface to his book on Semitic Mythology, Dr. Langdon writes :—

"I may fail to carry conviction in concluding that both in Sumerian and Semitic religions Monotheism preceded Polytheism and belief in good and evil spirits. The evidence and reasons for this conclusion, so contrary to accepted and current views, have been set down with care and with the perception of adverse criticism. It is, I trust, the conclusion of knowledge and not of audacious preconception."

Simultaneous with this discovery of Archæology came endorsement from another Science—that of Anthropology, or the study of the primitive or aboriginal races.

In *The Origin and Growth of Religion*, Professor Schmidt, of Vienna, testified to a universal belief in one Supreme Being among the primitive peoples, and a universal belief in a future life. So it is not among the civilized Sumerian and Semitic races alone that evidence has been found of original Monotheism, but among the uncivilized races as well. There seems little doubt that the evidences left by other ancient civilizations such as Egypt, India, China, and Greece call for the same verdict.

The importance of these discoveries in their effect on modern beliefs and on contemporary literature cannot be overestimated. They transcend in importance Einstein's discovery of Relativity. What skyscrapers of erudition have been erected on the assumption, expressed or implied, of the evolution of religion! And now the time has come when they prove to be unsound at their very foundation!

Let us now proceed to consider some of the positive evidence of archæology in its bearings upon the earlier Books of the Old Testament. During the past eight years the study and classification of the potsherds, or broken pieces of earthenware, with which the ancient sites of cities in Bible lands are littered and impregnated, has enabled excavators to assign dates to those sites and to the various strata of occupation lying beneath them. The knowledge thus acquired was used by Professor Garstang in his excavations of Jericho. You are doubtless well aware that he assigned a date of about 1400 B.C. for the ruins of the city destroyed by Joshua. The walls, fallen flat outwards as the result of an earthquake, and the burnt but untouched foodstuffs inside the houses and store rooms, testified to the substantial correctness of the Bible narrative.

It had been very generally assumed that the Exodus from Egypt took place during the reign of the Pharaoh Merenptah, about 1220 B.C. In that case, Jericho should have fallen about 1180 B.C. Between that and Garstang's date of 1400 B.C. there was a discrepancy of more than 200 years! So serious doubts began to be cast upon the pottery dating. It was fortunate that Professor Garstang was enabled to discover the cemetery, or necropolis, in which the inhabitants of Jericho had buried their dead. In the tombs he found quantities of unbroken

pottery, and among them Egyptian scarabs inscribed with the cartouches of Egyptian Pharaohs whose dates were known. This dated pottery from the tombs verified the dates of the broken pottery in the burnt city. It was also a significant fact that the scarabs all came to an end with two of Amenhetep III, evidence that Jericho met its fate in the reign of that Pharaoh.

Now the dates ascribed to this particular Pharaoh and his contemporaries are believed to have been exactly ascertained. Amenhetep III reigned 1413 B.C. to 1377 B.C. If, therefore, we add forty years to these dates to allow for the time Israel was wandering in the wilderness, we arrive at an interval between 1453 B.C. and 1417 B.C. in which the Exodus must have taken place. With the aid of the Bible narrative it would seem as though we can attain an even closer approximation. Moses is stated to have been absent from Egypt about forty years. The description of the events which led to his return opens with the passage :—

“ And it came to pass in the course of those many days that the king of Egypt died.”—Exod. ii, 23.

Let us consider this text in relation to the reigns of the Egyptian Pharaohs between 1453 B.C. and 1417 B.C. They run as follows :—

Thotmes III	..	..	..	1501-1447
Amenhetep II	..	..	..	1447-1423
Thotmes IV	..	..	..	1423-1413

But the verse quoted above suggests that the king who died had reigned a long time, and that he was the Pharaoh from whom Moses fled. This serves to identify Thotmes III as the monarch from whom Moses fled, and whose death preceded his return. So the Exodus must have taken place either in 1447 B.C., or after that date. Leaving these considerations alone for the moment, let us calculate the date of the Exodus from a different source.

Next to the Exodus the most important event in Old Testament history was the founding of Solomon's Temple. It seems certain that the writers of the sacred narrative must have known the interval of time that elapsed between these events. Thus we read :—

“ And it came to pass in the four hundred and eightieth year after the Children of Israel were come out of Egypt, in the fourth year of Solomon's reign over Israel, that he began to build the house of the Lord.”—1 Kings vi, 1.

The difficulty that here confronts us is the date of Solomon's accession. The Cambridge Ancient History places it at 970 B.C. Sir Flinders Petrie, in a recent article in *Ancient Egypt*, fixes it at 960 B.C. These dates give a margin of between 967 and 957 B.C. for the founding of the Temple. Figures supplied by Josephus work out at 966 B.C. If 480 years are added to these dates, the Exodus would have taken place between 1447 B.C. and 1437 B.C. It will be seen that this period agrees with the Jericho dating, and would place the destruction of Jericho by Joshua between 1407 and 1397 B.C. Some year nearer the later date seems the more probable; for since Amenhetep III came to the throne in 1413 B.C. it allows a greater interval of time for two of his scarabs to be buried in Jericho's tombs. It is also nearer to the time of the Tel el-Amarna letters, one of which actually mentions Joshua. On these considerations a date of about 1400 B.C. may be suggested, which would place the Exodus in 1440 B.C.

Professor Garstang, in his book *The Foundations of Bible History*, points out how the dates of the Judges may be reconciled with such chronology. I do not propose to refer to his arrangement of the dates of the Judges, and the confirmation afforded by them; but I invite your consideration of a chronology made on the Jericho basis which *goes back* to the birth of Abraham.

Abraham was one hundred years old when Isaac was born. Gen. xxi, 5	100
Isaac was sixty years old when Jacob was born. Gen. xxv, 26	60
Jacob was one hundred and thirty years old when he went down into Egypt. Gen. xlvii, 9	130
The Israelites were four hundred and thirty years in Egypt. Exod. xii, 40, 41	430
The Israelites wandered in the wilder- ness forty years. Deut. ii, 7 ..	40
Jericho was destroyed B.C.	1400
<hr/>	
The birth of Abraham B.C.	2160

By using this chronology, events in the life of Abraham are dated as follows :—

	B.C.
Abraham came into Canaan when he was seventy-five years old. Gen. xii, 4	2085
Sodom and Gomorrah were destroyed when Abraham was ninety-nine years old. Gen. xvii, 1	2061
Isaac was born when Abraham was one hundred years old. Gen. xxi, 5 ..	2060
Abraham was one hundred and seventy-five years old when he died. Gen. xxv, 7	1985

Now the correctness of this chronology is convincing for the following reason :—The great Semitic monarch Hammurabi has been identified with Amraphel, king of Shinar, mentioned in Gen. xiv, 1. The date of Hammurabi has now been ascertained through what is known as “ the Venus tablet of Ammezaduga ” ; that is to say, with the aid of astronomy. This cuneiform tablet records the heliacal rising and setting of the planet Venus taken in the reign of a certain king of Babylonia named Ammezaduga. The cuneiform clay prism now in the Ashmolean Museum, Oxford, enabled Dr. Langdon to ascertain the interval of time between Ammezaduga and Hammurabi ; and with the aid of the astronomical date of the former, the reign of Hammurabi works out at 2067–2024 B.C. This date would place Chedorlaomer’s raid at the beginning of Hammurabi’s reign, and bring it near the destruction of Sodom and Gomorrah in 2061 B.C. Allowing for some slight margin of error, and the calculations of another astronomer who assigns a slightly earlier date, the results are extraordinarily exact over such a long period of time ; and they also confirm the hotly disputed identification of Hammurabi with Amraphel.

But to return to the pottery system of dating. It has been applied by the distinguished American archæologist, Dr. Albright, to places mentioned in the life of Abraham. It is significant that though Dr. Albright has refused to recognize the Hammurabi identification, and places Abraham some centuries later, yet nevertheless his pottery evidence seems quite consistent with the dates here mentioned.

Thus, when Abraham first passes through Canaan—Shechem, Bethel and Ai are named as places on his journey. Dr. Albright writes :—

“Practically every town mentioned in the narrative of the Patriarchs was in existence in the Middle Bronze Age (2000–1600 B.C.). Examples are Shechem, Bethel, Ai, Jerusalem (Salem) Gerar, Dothan, Beersheba.” Vide *The Archæology of Palestine and the Bible*.

It is true that our chronology for Abraham’s journey through Canaan is 2085 B.C. or just before the Middle Bronze Age. But the evidence on these sites does not justify the assertion that 2000 B.C. was actually their earliest date. Some of them, certainly Jebusite Jerusalem, go right back into the Early Bronze period.

Then again, the pottery dating fully bears out the route of invasion taken by Chedorlaomer and his allies recorded in Gen. xiv. Dr. Albright’s comments on this incident run as follows :—

“Formerly the writer considered this extraordinary line of march as being the best proof of the essentially legendary character of the narrative. In 1929, however, he discovered a line of Early and Middle Bronze Age mounds (2500–1600 B.C.) some of great size, running down along the eastern edge of Gilead, between the desert and the forests of Gilead. Moreover, the cities of Hauran (Bashan) with which the account of the campaign opens, Ashtaroth and Karnaim, were both occupied in this period as shown by archæological examination of their sites.”—*Ibid*.

Again, those of us who have visited the Jordan valley and the Dead Sea, realize how Lot’s choice of the Cities of the Plain must imply that both physical conditions and climate were much better there about the year 2080 B.C. than they are to-day, and there is ample evidence to bear out this conclusion. So far as the Jordan valley is concerned, Dr. Albright writes :—

“These researches and those of Père Mallon and other scholars have proved that the most prosperous period of the history of this valley was in the Early Bronze Age” (2500–2000 B.C.).

The Cities of the Plain, destroyed according to our chronology about 2061 B.C., appear to have been situated at the lower end

of the Dead Sea. Five streams of fresh water that descend into the south-east corner, still form five oases. The cities were probably below these, the level of the Dead Sea has risen and its waters engulfed them. But on the hills above there are still the remains of an ancient High Place with a settlement and fortress. That site is littered with quantities of pottery fragments, and these date the period of occupation as between 2600 and 1900 B.C. It seems probable that the worshippers at this shrine, beside those who dwelt in the Cities of the Plain, included the dwellers in the neighbouring region known as the Arabah.

Many years ago I read a legend that the Phœnicians were people who fled from the neighbourhood of the Dead Sea in consequence of the cataclysm which overtook the Cities of the Plain. It seems a long way from the south end of the Dead Sea to the north of Syria, but recent archæological discovery has established an intimate connection.

Now, those who have read my book will know something about the alphabetical cuneiform tablets in archaic Hebrew recently dug up by the French at Ras Shamra, on the coast of Ancient Phœnicia, opposite the Island of Cyprus. Since the book was written, the contents of further tablets have been deciphered and published. It now appears that the people who wrote the tablets claimed to be Arabs whose forefathers came from this Arabah round the southern end of the Dead Sea. This seems to confirm the legend of the origin of the Phœnicians, and to throw a flood of light upon the patriarchal period of Palestine. One tablet appears to contain allusions to the mystical birth of Shalem in the wilderness of Kadesh. Since we know that Jerusalem was in existence in Abraham's day, this mythology indicates that the ancestors of these Arabs were round the neighbourhood of the Dead Sea before the patriarch's time. That constitutes a remarkable confirmation of the conclusions about the Hyksos or Shepherd Kings referred to in my book.

In other words, Josephus was correct in calling the Hyksos "our ancestors," and in his statement "some say they were Arabs." When Abraham came into Canaan it would seem that he entered a land which had long been ruled by his race. The Canaanites and Amorites were only fellahin, races into which the ruling Semitic civilization became absorbed—Melchizedek was probably one of the remnants of the pure Hyksos.

The Ras Shamra inscriptions are at present dated 1400–1350 B.C., or during the time Joshua was conquering Canaan. But there is some ground for the belief that they were written a century or so later. In any case they contain so many allusions to sacrifices and ceremonies of the Mosaic code, that one is reduced to the conclusion, either that Moses adapted the ancient ritual of his race to Monotheism and then revived it, or that the Ras Shamra rituals were imitations of the Mosaic ritual which was already in existence. In my forthcoming book I suggest that the truth lies between both these theories. The Ras Shamra ritual tablets are grossly polytheistic in character, but the Divine Names—El and Elohim—frequently occur, and the name Yah, the original of the name familiar to us as Jehovah, appears on at least one of them. These Ras Shamra tablets are probably the most important archæological discovery yet made, so far at least as the Old Testament is concerned. They should form the subject of several papers for this Institute.

At the northern end of the Dead Sea, Professor Garstang's further excavations beneath the remains of Joshua's Jericho, brought to light three earlier cities. These furnish evidence first of Babylonian influence, and later of Hyksos work, such as are being found also by Sir Flinders Petrie on the coast at Old Gaza. Professor Garstang has decided that Jericho was once a Hyksos store city; and it is interesting to speculate whether Chedorlaomer stored there the tribute that he received from Sodom and Gomorrah (Gen. xiv, 4).

The excavations being made by the Wellcome Historical Museum at Tell Duweir in South Palestine were visited last year by the writer. Mr. Starkey, who is in charge, must be congratulated upon the rapid and efficient progress of the work. An excellent exhibition of finds from these excavations was held last year at the new showrooms of the Palestine Exploration Fund, 2, Hinde Street, Manchester Square. I trust that many members of this Institute visited them. Last season's excavations were made upon the site of a city built by Rehoboam and destroyed first by Sennacherib and later by Nebuchadnezzar. The site is believed to be Lachish. During the last few weeks Mr. Starkey has reported that, in the remains of what appears to be a temple, built on the filling of the fosse, among a quantity of articles including glassware and blackened ivory, he has found four large scarabs of Amenhetep III. But still more important is a large "lion hunt" scarab, dated the tenth

year of that Pharaoh's reign (1403 B.C.). A previous report records the fact that some ornaments similar to those of the Tel el-Amarna period in Egypt had elsewhere been brought to light. This suggests that the excavators have reached the stratum of the city that Joshua captured.

It is noticeable how the whole trend of Biblical archæology tends to confirm the Old Testament narrative. On the other hand, the so-called Higher Criticism and its conclusions are becoming discredited. How desperate the position has become, may be judged from the attempt of some authorities, who still cling to its conclusions, to place Moses after Joshua.

DISCUSSION.

Sir AMBROSE FLEMING (President) said : I feel sure I am expressing the feeling in the minds of all the members of the audience in saying that we are deeply indebted to Sir Charles Marston for the extremely valuable and interesting paper he has read to us. It would be difficult to exaggerate the importance of the exploratory work he has been carrying out with the assistance of Professor Garstang on the site of the Canaanite Jericho. All Bible students, and those who are concerned for the truth of the Scriptures, have been laid under debt by him. His work has assisted powerfully to give denial to some of the conclusions of the so-called higher critics whose statements have often tended in the direction that much of Old Testament narrative is only to be regarded as elaborated folk-lore or fiction, and not as genuine history. But now, as Professor Sayce once said, the spade of the archæologist has undermined the conclusions of the theorist. We are now getting at the facts.

One of the points in Sir Charles Marston's paper which has interested me is the evidence he has given that the Exodus of Israel took place in the reign of the Pharaoh Amenhetep II. In a visit I paid to Egypt and the Valley of the Kings five years ago, I was taken down into the tomb of this Pharaoh and saw his mummy lying in his sarcophagus. The former view that Ramses II was the Pharaoh of the Oppression and his thirteenth son and successor Merenptah was the Pharaoh of the Exodus, is being with good reason replaced by the opinion that Thotmes III was the Oppressor and Amenhetep II the Pharaoh of the Exodus. The data secured

by Professor Garstang and Sir Charles Marston as to the date of the destruction of old Jericho agrees with the statements in the Bible, and also with the accepted chronology of the Pharaohs of the eighteenth dynasty.

In a very interesting paper we had before us in February, 1927, the Rev. G. A. Frank Knight mentions a very striking incident. It seems that Thotmes IV, who was the successor of Amenhetep II, was a son but not by a royal princess. His elder brother, a son by a royal princess, did not succeed to the throne, and the suggestion was that this eldest son perished in the tenth plague. If so, it is an additional confirmation that Amenhetep II was the Pharaoh in whose reign the Exodus took place. Let me invite you then to endorse by your applause the hearty vote of thanks I have now the pleasure of proposing to Sir Charles Marston for his most interesting and valuable address.

MR. AVARY H. FORBES : The opening paragraphs of Sir Charles Marston's very valuable paper deal with the problem of Monotheism *v.* Polytheism as the earliest form of worship. Noah doubtless taught his sons to worship the one true God, but as their descendants wandered farther and farther from the land of promise, the land of God's covenant and of His oracles, their belief became more and more corrupted. They worshipped one God, but they worshipped Him in His *different activities*, and in course of time these different activities became different deities. The earliest Aryans identified the Deity with the dawn and light—the form of the power which ruled the world. This they called *Dyaus* (Lat. *dies*, day). Later the Greeks named it *Zeus* and the Romans *Jovis*. This power they thought of as the Father, and they usually added "Father" to his name; thus *Jovi-pater* became in later times Jupiter.

Professor Wilkins, of Owens College, Manchester, develops this point in his *Roman Antiquities* (Macmillan's *History Primers*), where he tells us (p. 106), "Men did not at first believe in many different gods, but only in many different forms of one great power. In the earliest days, then, there were many names for God; but these did not at first imply that there were many gods, only that at one time he was thought of as showing his power in one way, and at another time in another way. Thus polytheism spread widely

in various nations. Among the Romans *we can see* very clearly this process in action. Their great god Jupiter, was worshipped under many surnames. The first, and apparently the most widely spread in Italy, was Jupiter Leucetius, the god of light (Gk., λευκος). Then there was Jupiter Summanus, the god of the nightly sky . . . Jupiter Stator (Lat., *sto*, to stand), the 'stayer,' who stayed the flight of the soldiers in battle . . . Some of these names remained always in epithets, but others came to be thought of as denoting different gods."

The same process operated with Mars, Hercules, Apollo, Venus, Minerva, etc. And so polytheism as a growth out of monotheism is accounted for historically, naturally, almost necessarily.

The Rev. C. W. COOPER wished to give expression to the appreciation felt by members of the Institute, for the valuable aid being given by Sir Charles Marston, in making more known the great significance of the recent archæological discoveries of Professor Garstang by whose excavations in 1932 was now established unassailable proof that the Fall of Jericho took place in *cir.* 1407, *i.e.*, in the fifth year of Amenhetep III (1412-1376 B.C.) (Brit. Mus. Guide, p. 421) and not as stated by "The Majority of Scholars" (see *The New Commentary*, p. 177), 1220 B.C.

If Jericho fell in 1407 at the close of Israel's 40 years wanderings, then the Exodus took place in 1447 B.C., which year, as the Brit. Mus. Guide (1932) shows (p. 421), was the year of the death of Thotmes III (1501-1447 B.C.) and the year of the accession of Amenhetep II (1447-1421 B.C.).

It seems clear from Exod. ii, 23, that the call to Moses to return from Midian came after the death of Thotmes III and that since Amenhetep II began to reign the same year he was the King of the Exodus and not Merenptah (*cir.* 1220 B.C.) as stated by "Scholars."

Mr. Cooper further showed how the new date has the support of fitting in with other Bible statements and well-known historical events.

Amenhetep II reigned 26 years (1447-1421). He was succeeded by Thotmes IV, who reigned nine years (1421-1412). By adding to these years five years of the reign of the next King, Amenhetep III (1412-1376), we have the completion of the 40 years wanderings

and a space of five years to allow time for the scarebs of Amenhetep III to be placed in the tomb at Jericho before it was destroyed and burnt.

By use of this fixed date we are able to discover the date of Moses' birth and the names of the various Pharaohs under whom he lived. If Moses died in 1407, the closing year of the Exodus, then his life of 120 years (Deut. xxxiv, 7) began in 1527, which shows that he was born in the reign of Thotmes I (1539-1514). That Moses was 13 years of age when a new King, Thotmes II, came to the throne (1514-1501) and that he had spent 14 years under Thotmes III, from whom he fled to Midian at the age of 40 years.

These dates fit into all that we know of Queen Hatshepsut, the foster-mother and patron of Moses, and the new discovery by Sir Flinders Petrie of the evidence of Hebrew worship set up at the Temple of Serapit in Sinai, before she died in 1479 B.C.

Rear-Admiral Sir HARRY H. STILEMAN, K.B.E., said: My first interest in this great question of the evidence afforded to the historical accuracy of the Bible was awakened many years ago in Egypt when I visited Memphis and saw there, and in the Boulak Museum at Cairo, some of the remarkable things brought to light by the spade of the excavator.

Believers in the Bible have nothing to fear from archæological discoveries; on the contrary, their faith is confirmed more and more by what is brought to light, and the grand statement "The Word of our God shall stand forever" is realized to be absolutely true.

The accuracy of the chronological figures brought to our notice in the paper read this afternoon as compared with the Holy Scriptures is a striking confirmation of this truth.

We thank Sir Charles Marston most warmly for his interesting lecture and for the way in which he has marshalled the facts.

Mrs. WALTER MAUNDER said: Professor Stephen Langdon has said that there is some evidence that both Sumerians and Semites were originally monotheists. In the case of the Sumerians I doubt whether this was so in their earliest known conditions. In his book on the excavations at Mohenjo-daro, published two or three years ago, Sir John Marshall has drawn the conclusion that, in the Chalco-

lithic age, prior to 3000 years ago, all the peoples between India in the east and the Mediterranean littoral in the west (this includes what we now know as Persia, Mesopotamia, Asia Minor and Palestine, Italy, Greece and Egypt) had a common culture, philosophy and religion. But this religion was certainly *not monotheistic*; it was practically the same religion as the worship of Kali (the Earth Goddess) and her consort Siva, in the India of to-day.

When the Hindu Aryans invaded the Panjab about 1600 B.C., they had already even at that date ceased to be monotheistic, though their cousins, the Persian Aryans (whose religion was, without doubt, originally the same as that of the Hindu Aryans), were still closely monotheistic as late as 600 or 500 B.C.

I think there is some confusion of thought as to what *Monotheism* means. Immediately after the meeting on April 24th, a lady spoke to me to the effect that if I wanted to study "Monotheism among primitive peoples," I should look into the "monotheistic religion of the people of Borneo." I do not think that either Christian or Jew or Mohammedan would agree that the restriction of a man or a body of men to the cult only of a particular god constituted such monotheistic. Monotheism is the acknowledgment that the God of the 1st and 2nd chapters of Genesis, the Maker of all the world and of Mankind, is God alone, and that there is no other God but him. Such knowledge and such acknowledgment that there is but *One God* could not be evolved by man; it must have been revealed to man by God Himself. We are not told in so many words, but we must assume that God revealed this truth to Adam, to Noah, to Melchisedek and to Abraham, though it was forgotten or disbelieved by many of their descendants. Certainly it was again revealed in so many words, between the years 1440 and 1400 B.C., to the Hebrews in the wilderness, for Moses gave by the command of God the call: "Hear, O Israel; the Lord our God is One Lord."

Rev. F. W. PITT said: As one who is writing some elementary papers in the "Advent Witness" on the wonders of archæology, I should like to ask a question. It is a most important question. Sir Charles Marston in his interesting paper has told us that all the nations, even though they have drifted into polytheism, were originally monotheistic, thus proving that there was from the

beginning a primeval revelation of the One and only true God. This is essential to the claim that the Bible is a divine revelation, and not the evolution of the idea of God, as asserted by the critics. My question is, what are the proofs which support the view that such is the case? Professor Langdon is quoted as holding the view, and of course I believe it. But I should like to know how I may prove that in the beginning all nations were monotheistic.

I have recently read a disquisition by that great scholar Bishop Horsley on the Sybilline oracles, in which he sought to prove, before the discoveries of archæology were available, the universality of monotheism. It is a great tribute to the foresight of the Bishop if archæology confirms his conclusions.

Lt.-Col. HOPE BIDDULPH wrote: I call attention to a chronological note: "*The Israelites were four hundred and thirty years in Egypt*" (Exod. xii, 40, 41).

I.—This statement appears to conflict with that of St. Paul (Gal. iii, 16, 17) who assigns 430 years from God's covenant with Abraham to the giving of the Law (after the Exodus). This would shorten the actual

II.—residence in Egypt by over 200 years, and a comparison of Exod. vi, 16–20, where the ages of the progenitors of Moses are given seems to confirm this.

(a) LEVI lived 137 years (probably over 90 of these in Egypt).

(b) KOHATH lived 133 years (born *before* the descent into Egypt, Gen. xlvi, 11).

(c) AMRAM lived 137 years.

(d) MOSES aged 80 years at the Exodus.

Thus (b), (c) and (d) only total 350 years, and this would require both Amram and Moses to be born when their fathers were over 130 years old.

III.—Again, JOCHEBED, the mother of Moses, is stated to have been the sister of Amram's father (Exod. vi, 20), *i.e.*, Kohath's sister, and called "a daughter of Levi" (Exod ii, 1). If, then, she was only born at the end of Levi's life she would still have been over 250 years old at the birth of Moses, if the sojourn is reckoned at 430 years in Egypt.

There seems no sufficient reason to consider the term "daughter of Levi" as "descendant of Levi," or to interpolate generations between Levi and Amram to fill up the 430 years.

IV.—Finally it is deserving of note that in the Samaritan Pentateuch the text of Exod. xii, 40, reads: "Now the sojourning of the children of Israel, *who dwelt in Egypt AND IN THE LAND OF CANAAN*, was four hundred and thirty years."

This would make the birth of Abraham about 1945 B.C.; or if the earlier date of 2160 B.C. be insisted on, then the date of the Exodus would seem to be earlier, viz., about 1655 B.C.; but this would throw out the generally accepted date of Solomon's Temple.

LECTURER'S REPLY.

Sir Charles Marston, in his reply, pointed out that the indications of early monotheism went back to a time long before that referred to by Mrs. Maunder.

Referring to Colonel Hope Biddulph's comments, Sir Charles said that he was quite aware of New Testament passages which appeared to conflict with the very definite statements of the Old Testament; but he desired to point out, for what it was worth, that the Jericho chronology from Abraham to the founding of Solomon's temple, taken just as it stood, agreed with the Bible and was checked by nearly a dozen historical confirmations, and further, that the way the date for Abraham was confirmed by the astronomical observations recorded on the Venus tablets of Ammizaduga was certainly most impressive.

780TH ORDINARY GENERAL MEETING,
HELD IN COMMITTEE ROOM B, THE CENTRAL HALL,
WESTMINSTER, S.W.1, ON MONDAY, MAY 14TH, 1934,
AT 4.30 P.M.

MRS. WALTER MAUNDER, F.R.A.S., IN THE CHAIR.

The Minutes of the previous Meeting were read, confirmed, and signed, and the HON. SECRETARY announced the following elections:—As Members: Sir Cecil R. Harrison, K.B.E., B.Sc., and the Rev. D. E. Hart-Davies, M.A., D.D., from Associate, and as Associates, Martin Henry, Esq., L.D.S., and the Rev. Geraint L. Jones, M.A., B.D.

The CHAIRMAN then called on Mr. W. N. Delevingne to read his paper on "The Bible and the Bhagavadgita."

THE BIBLE AND THE BHAGAVADGITĀ.

By W. N. DELEVINGNE, Esq.

SOME time ago, Gandhi, who, as leader of the Indian Nationalist Party, was then looming large in the public eye in connection with the Round Table Conference on the reconstitution of the Government of India, was reported to have said that the Bhagavadgitā was his Bible and he found in it the guidance he needed for the due regulation of his daily life. This led people to ask what the Bhagavadgitā was and what peculiar merit it had that an interpreter of Hindu thought who commanded the respect, and even the reverence, of thousands of his fellow-Hindus, should consider it worthy to be placed on a level with the book which, in the belief of Christians, contains the direct revelation of God to man. I think it well, therefore, to preface what I have to say this afternoon on the Bible and the Bhagavadgitā with a brief account of the Bhagavadgitā and the place it holds in Hindu literature.

The Bhagavadgitā, or the Gitā as it is usually spoken of among Indians and as I shall call it for the sake of brevity, is, according to its literal meaning, the Song of God, or the divine

song. It forms a short episode in one of the two great national epics of ancient India, the Mahābhārata. The Mahābhārata (or story of the Great Bhārata) consists of eighteen Parvans, or parts, the sixth of which is named after the hero Bhishma. The Bhishma Parvan comprises thirty chapters, eighteen of which are occupied with the Gitā. The subject of the Mahābhārata is the struggle between the two branches of the royal family of Hastināpura (near modern Delhi) for possession of the kingdom over which it ruled. One of the branches was called the Kauravas and the other the Pandavas. The former conspired to deprive the latter of their share of the kingdom; and as all attempts to effect an amicable settlement of the dispute ended in failure, the Pandavas resolved to have recourse to arms for the enforcement of their rights. Both parties gathered their forces together, and the hostile armies met on the "holy field of Kurukshetra," which is mentioned in the opening lines of the Gitā. Nearly all the ruling chiefs in India at that time sided with one party or the other, and both parties eagerly sought the alliance of Krishna, the great prince of Dwārakā, who even then was regarded by many as an incarnation of the deity. Duryodhan, the eldest of the Kauravas, and Arjun, the third son of Pandu, proceeded to Krishna's camp to secure his favour, and Krishna, on hearing their requests, replied that one of them might have him alone and unarmed, and the other might have his vast army, every soldier in which was a brave and skilled veteran. Arjun prayed that he might have Krishna alone and unarmed as his ally, while Duryodhan readily accepted Krishna's offer of his whole army. It was then arranged between Krishna and Arjun that the former should act as Arjun's charioteer during the war.

Dhritarāshtra, the father of the Kauravas and brother of Pandu, was filled with grief at the prospect of an internecine struggle between his sons and nephews. He had been blind from his birth, but in the midst of his grief the renowned sage, Vyāsa, the reputed author of the Mahābhārata, appeared and offered to give him sight if he wished to see the course of the struggle that was about to take place. Dhritarāshtra declined the offer, but asked that he might hear an account of it, and Vyāsa, acceding to his request, bestowed supernatural powers on one, Sanjay, so that he might be able to see and hear all that happened and relate it to Dhritarāshtra.

The battle began, and after the conflict had raged for ten days and Bhishma, the leading general of the Kauravas, had fallen,

Dhritarāshtra put many questions to Sanjay as to the course of the struggle and received from him a full account of all that had happened. Among the earliest replies that Sanjay gave to him was a narrative of a dialogue that had taken place at the commencement of the struggle between Arjun and Krishna, the latter of whom, according to the arrangement between them, was acting as Arjun's charioteer. Arjun had become greatly dejected at the thought of having to fight against and kill his own relatives, and, filled with doubts as to whether he should continue to take part in the struggle, sought Krishna's advice. Krishna resolved all his doubts and expounded to him philosophically the duty of man and showed him why he would be failing in his duty if he withdrew from the battle.

The dialogue between Arjun and Krishna constitutes the subject-matter of the Bhagavadgītā. In the rôle he assumes as guide and instructor to Arjun, Krishna is not to be regarded as a mere earthly prince; he is represented as the Supreme Being himself in bodily form, and Arjun is fully conscious that the one with whom he is conversing is divine. It may indeed be said that Arjun stands for "Jīb-Atmā," or the spirit of man, and Krishna for "Param-Atmā," or the spirit of God. Man, subject to the limitations of his finite mind, is distressed and troubled by the seeming contradictions that beset the path of duty, and in his perplexity he seeks the advice and help of the Omniscient and Omnipotent Lord of the Universe, who has condescended to manifest Himself and to impart to man the instruction he needs. It will be readily understood therefore that the Gītā occupies a high place in the religious and philosophical literature of the Hindus, and that to read it or a portion of it every day is considered a work of great religious merit. To the modern mind it may seem strange and incongruous that what is in effect a religious and philosophical treatise should be introduced into an epic poem celebrating the heroic struggle of a royal family to recover its rightful kingdom, and some scholars hold strongly to the opinion that it is a late interpolation in the Mahābhārata. But a poem or collection of poems composed or reduced to writing (in much the same way as were the Iliad and Odyssey of Homer) some centuries before the beginning of our era cannot be judged by modern standards, and, though the point is by no means free from doubt, the better view seems to be that it belongs to the age of the Upainshads of the Vedas,

and that it was either composed as an integral part of the Mahābhārata or it was already in existence at the time when the Mahābhārata was composed and was woven into that epic as a poem setting forth in language of great beauty the highest philosophical conceptions of the age.

It is not my intention (and I doubt my competence for such a task) to consider the Gitā as a system of philosophy or to compare it with other philosophical systems that, from time to time, have been formulated by men in their search after knowledge. Philosophy, though its meaning has varied with different schools of thought, may be defined as the sum of all speculative knowledge and as embracing the study of the highest matters, metaphysics and the supernatural. It aims at discovering truth not manifest to the senses by the aid of human reason. The Bible, on the other hand, apart from the historical portions, contains Divine Revelation, and therefore what it reveals is absolute truth within the limits of the human understanding. In so far, then, as the Gitā propounds a philosophical system, it stands on a different plane from the Bible, and a comparison of the one with the other will yield little profit unless we can find some points of contact.

At the same time, it will help us to a clearer understanding of the doctrines set forth in the Gitā, if we know something of the systems of philosophical speculation that influenced Hindu thought at the time it was composed. I propose, therefore, to state very briefly what those systems were.

(1) First, there was the Sāṅkhya system, which held that the universe had sprung from a primordial essence called Prakṛiti, which itself was made up of three constituent principles, or "gunas," called "sattwa," "rajas," and "tamas." Twenty-three other entities, or "tattwas," spring from "Prakṛiti" by a process of evolution and make up the universe. The "Purusha," or soul, is a twenty-fifth entity not derived from "Prakṛiti" and devoid of "gunas," or principles. Individual souls are separate and each remains unchanged through successive transmigrations. The soul, however, is enveloped in "Prakṛiti" in the form of a body, and the aim of man should be the liberation of the soul from the envelopment of Prakṛiti by the acquisition of true knowledge. As regards the Supreme Spirit, or God, the attitude of the Sāṅkhya system is one of denial. The system is essentially atheistic.

(2) The Yoga system, or, as it is sometimes called from its reputed founder Patañjali, the Patañjal system, closely resembles the Sāṅkhya, and in both "Avidyā," or ignorance, is the cause of the soul being fettered by the body. In one important respect, however, the Yoga differs from the Sāṅkhya system, in that it acknowledges the existence of a Supreme Being. Further, it provides a new method of attaining the liberation of the soul from Prakṛiti, or nature, namely, deliverance from all disturbing thought, and it sets forth various means by which this may be secured. It is the aim both of the Sāṅkhya and the Yoga systems to effect the isolation of the soul from nature, and not union with an absolute.

The Vedānta System.

The Vedānta system as expounded by Śaṅkarachāryya, is the creed of pantheism. There is but one substance, or essence, and the doctrines of the system are summed up in the formula "*Ekam eva Adwitiyam*," one only without a second. Both creator and created are but parts of the one essence. Whatever else may appear to exist has no reality, but is the result of "māyā" or illusion.

The Vedānta expounds the doctrine of "Brahman," or the Absolute, as set forth in the latter portion of the Vedas, that is, the "Upanishads."

The fourth system is that known as the "Pūrvā Mimāṃsā," the doctrines of which form the subject of the "Pūrvā," or first portion of the Vedas. It sets forth in detail various kinds of "karma," or ritual, by the careful observance of which man may attain to the highest good, the *summum bonum*. Knowledge, it holds, is of but secondary importance. Man's first duty is to follow perfectly all the ritual laid down in the Vedas, and as this could only be done with the aid of those skilled in the interpretation of the Vedas, we can see at once how the system tended to the exaltation of the Brahmin class.

Two other systems of philosophy have been recognized by Hindu pandits, the "Nyāya," or that which holds that truth must be sought through logic, and the Vaiśeṣik, which is a development of the Nyāya, and divides the whole sum of human knowledge into seven categories, namely, substance, quality, action, generality, particularity, perpetual connection, and non-

existence ; but as there is no trace in the *Gitā* of the influence of either of these systems, it is needless to do more than mention them.

The *Bhagavadgitā*, as you may have surmised, is not a separate and sharply defined system of philosophy. The philosophy it presents is a strange and somewhat incongruous combination of doctrines widely different in character and, what is most striking, of widely different doctrines set forth in close proximity to one another without any apparent sense of their incongruity. This fact has given rise to very conflicting views as to the date of the *Bhagavadgitā*. Some authorities, like the late Kashinath Trimbak Telang (see the Introduction to his translation of the *Bhagavadgitā*) have held that it is "more than probable that the latest date at which the *Gitā* can have been composed must be earlier than the third century B.C., though it is impossible to say at present how much earlier." Others, such as Weber and Lassen, contend that the *Gitā* was not written before the third century B.C. ; while others again, struck by the similarity between the noblest conceptions in it and certain doctrines of the Christian religion, assert that the author must have been influenced by Christianity and assign to it a date as late as the second or third century A.D. But whatever may be the correct date of its composition, and however difficult it may be to explain its inconsistencies and contradictions as a philosophical treatise, the *Gitā* undoubtedly represents a great advance upon the old systems, which I have described. According to the *Sāṅkhya* doctrines, for instance, the universe consists of the primordial essence, "*Prakriti*," and the soul which exists apart from "*Prakriti*" and is unchangeable through successive transmigrations. But nothing is known of the Godhead or of the ultimate destination of the soul. In the *Gitā*, however, both soul and "*Prakriti*" are manifestations of the Supreme Spirit, the former a superior and the latter an inferior manifestation.

Again, in the *Yoga*, or *Patanjal*, system, while the existence of a Supreme Being is recognized, the end that man should set before him is not very different from that of the *Sāṅkhya*. In both, the liberation of the soul from "*Prakriti*" is the end to be desired, and when the soul has attained to this freedom and rests in itself, it has reached its highest good. In the *Gitā*, on the other hand, the liberation of the soul leads to a yet higher state, that of direct communion with the Supreme Spirit. The

summum bonum is “sayugya” or complete union of the soul with the Supreme Spirit.

And, lastly, while in the Pūrvā Mimānsā system, the Vedic rites and the benefits that flow from the due performance of them, *i.e.*, the attainment of the various heavens, are ends in themselves, according to the Gītā rites have value only as effective means of spiritual advancement.

It will be seen, then, that the philosophy of the Gītā, to quote the opinion of Professor Keith,* “has one decided characteristic, and that is its theistic tinge, which constantly intrudes and which is natural in an epic which had a far more popular appeal than had the more philosophical speculations which are here and there referred to in it.” But while the theistic tendency of the Gītā is beyond dispute, there is no sufficient ground for believing that the author was acquainted with the doctrines of the Christian faith. In the opinion of such eminent scholars as Dr. Muir and Dr. Monier Williams, the resemblance between the passages in the Gītā, where devotion (“bhakti”) to the Deity is inculcated, and the teaching of the New Testament is not greater than might be expected in works dealing with the same subject from similar standpoints.

What has gone before may seem an over-long exordium to my subject. But I do not think I need apologize for it. Not only are the position of the Bhagavadgītā in Hindu literature and its relation to other Hindu philosophical and religious works of peculiar interest, but, unless we know something of these matters, it is very difficult to draw any comparison that shall be at all profitable or instructive between that work and the Bible. I now propose to examine briefly what the Gītā tells us in regard to five great subjects of outstanding interest and importance to mankind in general, and then to compare with it what we learn from the Bible respecting those subjects. The five subjects are: (1) God; (2) Creation—the Universe; (3) Man and his duty toward God and his fellow-men; (4) Sin and its Consequences; (5) Life after death—the future existence.

1. *God.*

If we would state the essential difference between the Bible and the Bhagavadgītā in a few words, we might say that in the

* *The Sāṅkhya System* (The Heritage of India Series), by A. Berriedale Keith, D.C.L., D.Litt.

Bhagavadgitā, man is seeking God ; in the Bible, God is seeking man.

Of the character and attributes of the Deity, or the Supreme Being (called Brahman), we learn very little from the Gitā. What we are told may be summarized as follows :—

(1) The Deity, the Brahman, is the Supreme, the Indestructible (chapter viii).

(2) The Deity is unborn and his essence is inexhaustible ; and he is the lord of all beings. Nevertheless, he can and does take to himself bodily form (chapter iv).

(3) The Deity is unborn, without beginning, the lord of the world. He is the origin of all things and all things move on through him (chapter x, 1-12).

(4) Though unborn and without beginning, the Deity manifests himself through countless “ emanations,” and in countless forms and ways. Of created beings, he is the beginning and the end and the middle also, and nothing can exist without him. He, too, is the sum of all knowledge (chapter x, 20—chapter xi, 32).

In chapter iv, Krishna declares to Arjun that, though unborn, yet he has, by his own power, been born in the bodily form in which he has appeared. He declares further that, whenever piety languishes and impiety is in the ascendant, he creates himself ; that he is born age after age for the protection of the good, for the destruction of evil-doers, and the establishment of piety.

It will be seen from this summary that the Gitā reveals nothing concerning God that can touch the heart and soul of man. What it tells us is a curious mixture of theism and pantheism, and it does not enable us to formulate any consistent idea of the character and attributes of the Deity. It leaves us in a mist of doubt and uncertainty and affords no ground for supposing that the welfare of man is anything but a matter of complete unconcern to the Ruler of the Universe.

Contrast with this the God revealed in the Bible. The Bible opens with the words, “ In the beginning, God,” and after a brief account of the creation of the physical universe, the record depicts the creation of man, whom God made in His own image and to whom He would reveal Himself as he lived in communion with Him. But sin came in, and man fell from his high estate

through disobedience and was driven from the presence of God. With the punishment, however, God gave a promise of ultimate restoration, and thereafter we have unfolded before us the gradual fulfilment of that promise and the supreme manifestation of God's love to man in the incarnation of His Only-Begotten Son and the Son's offering of Himself on a Cross as a sacrifice for sin for the redemption of mankind. The record ends with a statement of all the blessings that flow from that sacrifice, the gift of God's Holy Spirit, and the deliverance of man from the power of sin and the final triumph of God's Kingdom over all the powers of evil.

The God of the Bible is a God of infinite holiness and righteousness, who cannot look upon sin and will by no means clear the guilty, and yet is a God of infinite love and mercy, who wills not that any should perish, but that all should come unto the knowledge of the truth. The revelation of such a God to man is the supreme, transcendent fact in the whole history of the universe. Well may we say, "Great is the mystery of godliness ; God was manifested in the flesh, justified in the spirit, seen of angels, preached among the nations, believed on in the world, received up in glory."

2. *Creation : The Universe.*

As might be expected, there is very little in the Gītā to throw light on the problem of creation and show how the universe came into existence. I have already made one or two references to this subject in dealing with the Gītā's pronouncements in regard to the nature of the Supreme Being, but I will reproduce the leading passages in the Gītā in which the subject of creation is touched upon.

In chapter x, Krishna, in answer to Arjun's request to him to declare all his divine emanations by which he pervades all the worlds, says : " I am the beginning and the middle also of all beings . . . of created things I am the beginning and the end and the middle also. Among sciences, I am the science of the Adhyātmā (*i.e.* the manifestation of the Brahman as an individual self). . . . I myself am time inexhaustible, and I the creator whose faces are in all directions. I am death who seizes all, and (I am) the source of what is to be."

And again, in chapters xiii and xiv, Krishna declares that " He sees (truly) who sees the Supreme Lord abiding alike in

all entities, and not destroyed, though they are destroyed. . . . When a man sees all the variety of entities existing in one and (all as) emanating from that, then he becomes (one with) the Brahman. This inexhaustible supreme self, being without beginning and without qualities, does not act and is not tainted, though stationed in the body. . . .”

“Those who, resorting to this knowledge (*i.e.* the highest knowledge—the knowledge how to attain final emancipation), reach assimilation with my essence, are not born at the creation, and are not afflicted (*i.e.* destroyed) at the destruction (of the universe).”

In these and similar passages we can see the author of the *Gitā* groping his way to some solution of the problem of creation, some explanation of the great universe round him. The conclusion at which he seems to arrive is that the whole world and all in it has emanated in some way or another from a Supreme Being, and the souls of all men will finally be absorbed in the Supreme Being. The Bible, on the other hand, leaves us in no uncertainty as to creation having been the work of God. In the first two chapters of *Genesis* the various stages in creation are set forth in order and each begins with the word of God, “Let there be”; and the culmination of all God’s work in creation is His creation of man in His own image. How the infinite power of God was exercised, the finite mind of man can never know or understand. With all the wonderful discoveries that have been made in regard to the forces of nature and the laws that govern the universe, scientists are no nearer an understanding of the problem as to how the universe came into existence. The unfolding of the work of creation in simple, yet majestic, language in the first two chapters of *Genesis* reveals the omnipotence and the omniscience of the one True God, and man will never be able to penetrate the mystery until God condescends to grant a fuller revelation of Himself. For that we must wait until we stand in the glory of His presence.

3. *Man and his duty towards God and his fellow-men.*

We shall look in vain in the *Gitā* for anything like a moral or ethical code. It begins, as we have seen, by stating a moral problem, as Arjun asks, how it can be right to indulge in slaughter and destroy one’s own kinsmen merely for the sake

of satisfying one's ambition. Krishna first seeks to remove his scruples by philosophical doctrine. The human soul ("purusha"), the self, he says, is indestructible, immortal, and is not killed when the body is killed. As a man, casting off old clothes, puts on others and new ones, so the embodied self, casting off old bodies, takes on others and new ones. The self is everlasting, all-pervading, stable, firm, and eternal, and knowing it to be such, Arjun should not grieve at the thought of killing anyone. Moreover, Arjun is a Kshatriya (one of the warrior caste), and it is the duty of Kshatriyas to fight. "There is nothing better for a Kshatriya than a righteous battle. Happy those Kshatriyas who can find such a battle to fight, for it is an open door to heaven. But if you will not fight this righteous battle, you will have abandoned your own duty and your fame, and you will incur sin." Arjun is not satisfied, and urges that it would cause him intolerable grief to fight. Krishna replies that he must overcome that state of mind by the practice of "yoga," asceticism or spiritual culture. By this means man attains to freedom from all selfish attachments and desires, and though he will continue to perform all proper actions and fulfil the duties of his caste as prescribed in the Vedas, he will be wholly indifferent to the fruits, or results, of his actions, and through such indifference and self-control he will attain to perfect tranquillity and, absorbed in contemplation of Brahman, or the Supreme Being, of whom both nature and the soul are manifestations, will reach final emancipation and become identified with Brahman. This is the Brahmic bliss.

The foregoing is a brief statement of the means by which the soul—the self—can attain to everlasting happiness. But the Gītā seems to recognize that there may be a personal relationship between the soul and the Brahman—the relationship of the worshipper to him who is worshipped. In chapters vi, vii, and viii Krishna discourses to Arjun on devotion to himself—"bhakti"—and the blessings that flow from it. "Know, O son of Pandu," he says (chapter vi), "that what is called renunciation is devotion; for nobody becomes a devotee who has not renounced (all) fancies. To the sage who wishes to rise to devotion, action is said to be a means, as to him when he has risen to devotion, tranquillity is said to be a means. When one does not attach oneself to objects of sense, nor to action, renouncing all fancies, then one is said to have risen to

devotion." Krishna then describes the means by which a man can attain to the state of "devotion" and what is required of him as a devotee, and he concludes the first part of his discourse (see the end of chapter vi) with these words: "The devotee is esteemed higher than the performers of penances, higher even than the men of knowledge, and the devotee is higher than the men of action; therefore, O Arjun, become a devotee. And even among all devotees, he who, being full of faith, worships me, with his inmost self intent on me, is esteemed by me to be the most devoted." As he continues his discourse, he declares to Arjun that the "man of knowledge," that is, the man who knows how to attain final emancipation, is *dear* to him. "O Arjun," he says, "doers of good (acts) of four classes worship me: one who is distressed, one who is seeking after knowledge, one who wants wealth, and one who is possessed of knowledge. Of these, he who is possessed of knowledge, who is always devoted, and whose worship is (addressed) to one (Being) only, is esteemed highest. For to the man of knowledge I am dear above all things, and he is dear to me. All these are noble. But the man possessed of knowledge is deemed by me to be my own self."

There is one other passage I would like to quote. Still speaking of man's duty to be devoted to him, Krishna thus advises Arjun, "Whatever you do, whatever you eat, whatever sacrifice you make, whatever you give, whatever penance you perform, do that as offered to me. . . . And with your self possessed of (this) devotion, (this) renunciation, you will be released and will come to me. I am alike to all beings: to me none is hateful, none dear. But those who worship me with devotion (dwell) in me, and I, too, in them."

These passages, though they do no more than indicate the path of approach to the Supreme Being, bring us nearer to the ideal of a personal relationship with and worship of God. But that is the most that can be said of them, and it must be admitted that they leave the inquiring mind and heart in darkness and uncertainty. Some passages, it will be noticed, are contradictory the one of the other; and of the love of God for those whom He has created and as seeking to attract their love to Him, nothing is said. Again, in regard to the duty of man to his fellow-men, the *Gitā* is silent. So far as I am aware, there is only one passage in which there is any indication that

an obligation rests upon every man to seek the good and promote the happiness of his fellow-men. Towards the end of chapter v, Krishna, speaking of the devotee, declares that the sages whose sins have perished, whose misgivings are destroyed, who are self-restrained, and *who are intent on the welfare of all beings*, obtain the Brahmic bliss. Nowhere else is it suggested, except very remotely, that the welfare of his fellow-beings should be the object of man's earnest consideration and endeavour.

Let us now turn to the Bible. Here we have the code of laws that, nearly 1,500 years before Christ, was given by God through Moses to the people of Israel for their guidance in their approach to Him and for the regulation of their conduct one toward another and toward the nations around them. The principal features of this code are the Ten Commandments and God's requirement of the people that they should fear Him, and walk in all His ways, and love Him and serve Him with all their heart and with all their soul. There are also special injunctions as to their love and care one for another and as to the protection of those less able to defend themselves and maintain their own interests. In the Book of Leviticus, chapter xix, 17-18, we read, "Thou shalt not hate thy brother in thine heart: thou shalt in any wise rebuke thy neighbour, and not suffer sin upon him. Thou shalt not take vengeance, nor bear any grudge against the children of thy people, but thou shalt love thy neighbour as thyself." And in the twenty-fourth chapter of the Book of Deuteronomy (10-22) provision is made for the fatherless and the widow and the stranger within their gates.

The code of laws given to the Israelites was unique in character. One will look in vain throughout the annals of early human history for anything approaching its perfection, whether viewed from a religious or an ethical standpoint. It is indeed largely the basis on which human society to-day is founded. But perfect as it was in its adaptation to the circumstances and needs of the people to whom it was given, it was but a faint reflection of the love that God manifested toward men when He sent His Son into the world to be a sacrifice for sin and through that sacrifice to reconcile men to Himself and make them partakers of His Divine Nature. The doctrines of the Christian faith are universal in their application, and God's love and mercy, as revealed in the New Testament, flow out

to all men independently of race, creed, caste, class, or condition. The salvation that the God of the Bible provides for sinful men is a complete salvation, and while He is the justifier of all that avail themselves of that salvation, He Himself is just and righteous and holy in all His ways.

4. *Sin and its consequences to the human race.*

It is in its estimate of sin and the consequences of sin to the human race that the inadequacy of the *Gitā* to meet man's deepest need is most clearly seen. It recognizes the doctrine of "Karma," which lays down that every act must work out to the uttermost its inevitable consequences and receive its retribution, however many ages the process may require; that sins committed in this life or subsequent lives must be expiated by successive rebirths; and that salvation cannot be attained until the power of "Karma" is vanquished. For instance, in chapter vi Krishna declares to Arjun that "the devotee working with great efforts and cleared of his sins, attains perfection after many births and then reaches the supreme goal." There are other passages, too, in which reference is made to the necessity for re-birth until the soul is purged of evil desires and obtains release from the trammels of nature (*Prakriti*). But of sin as disobedience of the commands of an all-holy God and as a corrupting power in the heart of man that brings about spiritual death, no trace can be found in the *Gitā*. It may be said, indeed, that sin is viewed more as an offence against social or religious custom or a breach of caste rules than as a transgression of a moral law or disobedience of the dictates of conscience. In the first chapter of the *Gitā*, Arjun, speaking of his reluctance to fight against his kinsmen and destroy their families, addresses Krishna thus: "On the extinction of a family, the eternal rites of families are destroyed. Those rites being destroyed, impiety dominates the whole family. In consequence of the domination of impiety, O Krishna, the women of the family become corrupt, and the women becoming corrupt, intermingling of castes results: that intermingling necessarily leads the family and the destroyers of the family to hell; for when the ceremonies of (offering) the balls of food and water (to them) fail, their ancestors fall down (to hell)." In chapter ii, Krishna tells Arjun that if he will not fight the righteous battle (*i.e.* against the Kauravas), he will have

abandoned his own duty and fame and will thus incur *sin*. Again, in chapter iii, Arjun asks Krishna by whom man is impelled, even though unwilling, to commit sin, and Krishna replies: "It is desire, born from the quality of passion. Know that that is the foe in this world. . . . The senses, the mind, and the understanding are said to be its seat. . . . Therefore, first restrain your senses, then cast off this sinful thing which destroys knowledge and experience." (I would here suggest, for further study, a comparison between Krishna's reply to Arjun's question and the seventh chapter of Paul's Epistle to the Romans.)

We have a yet more curious view of sin in chapter iv. Krishna is explaining to Arjun the importance of knowledge, and he makes this statement: "Even if you are the most sinful of all sinful men, you will cross over all trespasses by means of the boat of knowledge alone. As a fire well kindled reduces fuel to ashes, so the fire of knowledge reduces all actions to ashes. For there is in this world no means of sanctification like knowledge." Knowledge of whom, or knowledge of what, we are not told; but it probably means nothing more definite than the knowledge of self and how to attain final emancipation from the bonds of nature (*Prakriti*).

Lastly, there are two passages that seem to suggest that sin does not necessarily import moral obliquity. At the beginning of chapter x Krishna declares: "Of (all) mortals, he who knows me to be unborn, without beginning, the great lord of the world, being free from delusion, is released from all sins." And in chapter xviii he says: "Once more, listen to my excellent words—most mysterious of all. Strongly I like you, therefore I will declare what is for your welfare. On me (place) your mind, become my devotee, sacrifice to me, reverence me, and you will certainly come to me. I declare to you truly, you are dear to me. Forsaking all duties (*i.e.* of caste or order), come to me as (your) sole refuge. I will release you from all sins." In neither of these passages is there any indication that sin is viewed as wrong-doing against God or against man, or that it is hateful to God as involving disobedience or defiance of His holy will.

The subject of sin must be considered in another aspect. If all the suffering in the world is the result of sin in one form or another—and there are very few, I suppose, that will venture to deny this—the great need of the human race is to find a remedy for

sin, to find a power that shall enable men to resist and overcome the forces of evil which are ceaselessly striving to frustrate the wise and beneficent purposes of God. The Gitā recognizes this need, but man is left to himself to find the means whereby evil may be overcome. He must seek in himself the power to resist and repel the motions of sin : he must rely on his own efforts for final and complete deliverance. The means suggested, as we have seen, are spiritual culture and the acquisition of true knowledge, that is, knowledge of the " self," or the practice of " karma yoga " (asceticism), which means not the renouncement of action, but the renouncement of selfish desires accompanied by the performance of proper action. The Gitā also seems to suggest another means, namely, whole-hearted devotion to Brahman as manifested in Krishna himself, which, through contemplation and attainment of the knowledge of the Great Spirit, will lead to salvation and final absorption in the Supreme Spirit. These doctrines are esoterism in an extreme form, and even if there were an element of truth in them, they would hold out no hope of salvation for the majority of mankind.

How different is the estimate of sin that we find in the Bible, and how greatly the remedy there provided for sin surpasses all the thoughts of man ! In the Bible sin, as disobedience of God's will, is set forth as the curse of the human race, and we have unfolded before us the gradual fulfilment of God's great purpose to redeem fallen man by the gift of His Son to be a sacrifice for sin and the bestowal of His Holy Spirit upon all those who, by faith, accept that sacrifice for themselves. I need not dwell upon this theme. It is blessedly familiar to us all. Upon the salvation provided by God through His Son Christ Jesus are founded all the hopes both for this life and the next of all those who accept the Bible as the Word of God.

5. *Life after death—the future existence.*

I propose to say very little on this subject. I fear I have already exceeded my limits. In the Gitā, as we have seen, salvation means deliverance from the power of " Karma " and the necessity for rebirth and the final emancipation from all that would hinder the soul from being absorbed in the Supreme Spirit. Of Heaven as the place where all those who have been redeemed by God will dwell with Him in a sinless state and of eternal life as the life they will enjoy in the glory of His Presence,

the *Gitā* has no conception, and I leave you to contrast in your own minds what I have described above as the Hindus' idea of final salvation and what has been revealed in the Bible of the life after death.

I feel I have dealt all too inadequately with these great subjects. But, as I have already indicated, the *Gitā* contains a large body of confused and often contradictory opinions, and it is not easy to make a clear and succinct statement of the beliefs of the author in regard to the subjects I have been considering ; and if you detect any omissions or shortcomings, I hope you will excuse them on the ground that to reduce the discussion of such comprehensive subjects within the compass of a short paper is a task of no little difficulty.

In conclusion, may I remind you that I do not pretend to have made an exhaustive examination of the *Bhagavadgītā* ? You will find in it, especially in chapters xiii, xv, and xviii, thoughts of much beauty and wisdom, to which I have made no reference ; but I have not considered it from the standpoint of its literary excellence or as constituting a great advance on the philosophical conceptions of earlier schools. It has been my object to show how far, in comparison with the Bible, it may be regarded as comprehending and satisfying the spiritual and moral needs of mankind.

DISCUSSION.

The CHAIRMAN (Mrs. Walter Maunder) said : I am sure that all will agree that this paper is an important one, both from its clear description of the Content of the *Bhagavadgītā* and from its clear discrimination of its doctrines and those taught in the Bible.

I have myself been among those who think that the *Bhagavadgītā* is one of the many interpolations in the *Mahābhārata*, but it differs from the others in the coherency of its arguments ; there is a definite purpose and a logical reasoning throughout it which marks it as separate from all the other irrelevancies. Arjun's questions are so direct and sensible that Krishna cannot evade them.

I think, however, that Krishna's arguments were not, at least at first, wholly leading up to the training of Arguer in the way of the *Sāṅkhya* and the *Yoga* philosophies. Already the old blind king,

the father of the Kauravas, had been exclaiming "Alas, cruel are the duties of the Kshatriya order as laid down by the *Rishis*," and when Arjun expressed himself to the same effect Krishna (before urging upon him "the protection of deestion"), commanded him: "Casting thy eyes on the duties of thy order, it behoveth thee not to waver for there is nothing else that is better for a Kshatriya than a battle fought fairly . . . if thou dost not fight such a just battle thou shalt then incur sin by abandoning the duties of thy order and thy fame." In fact, the followers of Kapila and Patanjali could not so apply themselves to their devotions as to obtain emancipation from rebirth unless the warrior caste kept them free from their enemies.

In the "Refutation of all the Heresies," supposed to be written by St. Hippolytus, the Bishop of Portus, early in the third century A.D., a description is given of the heresy of Noetus, which seems to me to bear a very close resemblance to the declaration in Chapter IV of the *Bhagavadgitā*, which Krishna gives to Arjun. St. Hippolytus definitely traces this heresy taught by Noetus (who was his contemporary) to the tenets of Heraclitus the Obscure, a philosopher who lived about 500 B.C. Close as the resemblance is, I do not see how one could have been derived from the other at any period. Though the Yavanas (or Greeks) are mentioned occasionally in the *Mahābhārata*, it is certainly not in such terms as would justify one in supposing that the Hindus ever derived their philosophy from an ancient Greek sage.

The *Mahābhārata* took a long time in the making, and it is later perhaps by two or three centuries than the *Ramayana*. Rama probably lived in the fourth or fifth century B.C., and the Pandavas and Kauravas not earlier than the second or third. There is not much in the *Bhagavadgitā* itself through which we can date its writing, but I do not at present see any reason why we should give it as late a date as the first or second century A.D.

The Rev. Principal H. S. CURR said: I should be interested to learn as to the result of the battle, to which reference is made in describing the historical setting of the poem in question, especially in view of the fact that Krishna took sides with one of the armies in person, and, at the same time, sent his own troops, composed

of veterans, to serve with the enemy. Was the presence of Krishna in the one army of more value than the aid of his soldiers to the other? My point will become more plain if I recall an anecdote connected with the first Duke of Marlborough. At the close of a great battle, in which the English army had been successful, Marlborough rode past a party of French prisoners. One of these was a man of gigantic stature, before whom he paused and remarked that if the French king had a thousand such men the issue of the day might have been very different. The witty reply was to the effect that the tables would have been turned if the French armies had one man like Marlborough in their midst. I should like then to inquire if Krishna's presence was like that of Napoleon, worth a brigade of foot.

I noted with much interest that Krishna became the charioteer of one of the warring princes. Such humility is moving. It is a reminder that the best thought in Indian philosophy recognizes meekness and lowliness of heart as the hall-marks of ethical and spiritual excellence in the manner, if one may venture to say so in all reverence, of Him Who was found in the fashion of a slave.

The doctrine of this poem, to the effect that salvation can be obtained by knowledge, interested me very much, recalling the dictum of Socrates that virtue is knowledge. Oriental and Occidental moralists thus seem to agree.

The general impression which this ancient composition conveys is one of deep need for which no satisfaction has been found. That is defined and described in a way which seems to be almost a *preparatio evangelica*. The problems which have been fully and finally solved in Christ Jesus, are stated in such a way that they seem to clamour for the answers supplied by the New Testament. These ancient philosophers and poets seem to have discovered and diagnosed the difficulties which are met and dissolved for ever in Him Who is made unto all believers wisdom and righteousness. In these days far too much is made of all that is good in ethnic religions. To my thinking what merits they possess are largely in their formulation of the needs which Christ alone can satisfy. Of themselves they are utterly powerless to deal with them. The lecturer has illustrated and emphasized that point again and again in his admirable treatment of a big subject.

One is also struck with the similarity between Eastern and Western statements of the deepest needs and desires of the soul of man. Differences there are, but deeper than the differences are the resemblances. East and West meet in the presence of Him Who made them both, and redeemed them both with His own precious blood, and that for His own glory.

The Rev. JOHN STEWART, Ph.D. wrote : Mr. Delevingne does not express any very definite opinion as to the date of the *Gitā*, although he seems to favour an early rather than a late date. He makes no reference to "Bentley's Ancient Hindu Astronomy," published in Calcutta more than a hundred years ago. In that book Bentley, I think conclusively, shows that the Krishna legend could not have been invented prior at least to A.D. 600, as proved by the horoscope of Krishna which Bentley gives and from which it appears that Krishna was born on the 7th August, A.D. 600. If that were so it would indicate that the *Gitā*, which is concerned largely with the sayings and doings of Krishna, could not have been written earlier than the date mentioned although it might have been much later, and as Christianity was very widespread in India long ere that there can be very little doubt as to the source of the finest of the sentiments given expression to in the *Gitā*. Besides, it has still to be proved that Sanskrit itself whether in the form in which it is found in the Asoka rock and pillar inscriptions, the Rig Veda, or the Mahābhārata, existed prior to A.D. The balance of evidence seems against it, and there is certainly, so far as is known, not a single reference to either Buddhism or Hinduism in any classical writing prior to A.D.

All this would seem to indicate a much more recent date for the *Gitā* than is often claimed for it. It would be interesting if the writer of this paper could follow it up by looking into that aspect of the whole question.

LECTURER'S REPLY.

There has not been much in the discussion that calls for a reply. As regards the date of the *Bhagavadgitā*, I have not examined this question at length, for it was rather outside the purpose of the paper. I am quite unable, however, to agree with the view expressed by the Rev. John Stewart in his written communication. The evidence

afforded by a supposed horoscope of Krishna would be very unreliable, and whatever value it might have would be far outweighed by other considerations of greater import. The question as to the data of the Bhagavadgītā has been fully discussed by the late Kashinath Trimbak Telang in the instructive and illuminating introduction to his translation of the poem, and I would commend his arguments for consideration to any who are interested in the question. I agree with our Chairman in thinking that it would be unsafe to assign a late date to the Bhagavadgītā merely on the ground that here and there in it are to be found conceptions that appear to bear some resemblance to certain doctrines or principles of the Christian faith. There is, in my opinion, very little ground for holding that the poem was composed subsequently to the commencement of the Christian era.

Mr. Curr has raised one or two points to which I should briefly refer. He has asked first, what was the result of the battle in which Arjun took part. The Bhagavadgītā has little to do with this, but I may say that the struggle between the Kauravas and Pandavas ended in the complete defeat of the former and the restoration of the Pandavas to their share in the kingdom. Their success, however, was short-lived, for subsequently, through the machinations of the Kauravas, they were once more driven from the kingdom.

As regards Krishna's offer to act as charioteer to Arjun in the battle, I agree with Mr. Curr that the willingness of the god Krishna to take the humble place of charioteer to the man Arjun in order that he might instruct him in spiritual culture is an admirable conception on the part of the author of the Bhagavadgītā.

Mr. Curr has also commented on the evidence afforded by the Bhagavadgītā of man's deep spiritual need and has pointed out that this need makes all men alike of whatever age or race. It is upon this common ground that East and West meet, however otherwise divided, and in Christ Jesus alone in Whom are fully revealed the love and righteousness and wisdom of God, can man's universal need be satisfied. It is said that the Hindus regard Krishna as the tenth "avatar," or manifestation in human form, of the Deity, and that they are looking for one more, the last and crowning revelation of God to man. May the day soon come when India shall see in Jesus Christ the One for Whom she is looking.

781ST ORDINARY GENERAL MEETING,

HELD IN COMMITTEE ROOM B, THE CENTRAL HALL,
WESTMINSTER, S.W.1, ON MONDAY, MAY 28TH, 1934,

AT 4.30 P.M.

LIEUT.-COLONEL ARTHUR KENNEY-HERBERT IN THE CHAIR.

The Minutes of the previous Meeting were read, confirmed, and signed, and the HON. SECRETARY announced the election of Robert J. Nairn, Esq., B.Sc., Ph.C., as an Associate.

The CHAIRMAN then called on the Rev. John Stewart, Ph.D., to read his paper on "The Dates of Our Lord's Life and Ministry."

*THE DATES OF OUR LORD'S LIFE AND
MINISTRY.*

By THE REV. JOHN STEWART, Ph.D.

THERE are only three dates in our Lord's Life regarding which the Scriptures give any definite information, but these are quite sufficient for our purpose. They are (1) The date of the Nativity; (2) The date when He began His public ministry; and (3) The date of the Crucifixion. As regards the first of these the information given enables us to determine the year with practical certainty, the month and the day can be arrived at only approximately. The second is closely related to the time when John the Baptist began his work as forerunner, a year which is definitely known. How soon after John's appearance our Lord began His ministry is somewhat uncertain. It may have been a year or eighteen months later. The date of the Crucifixion can, however, be determined with practical certainty, both as to the day and the year. With these three dates as the basis we are able to complete the superstructure by means of which the chief events in the Life of Our Lord can each be fitted in to its proper place in the completed whole.

1. *The Nativity*.—The traditional view that 4 B.C. was the year in which our Lord was born has for long held the field although in some quarters, the possibility that it may have been 6 B.C. instead of 4 B.C. has been suggested. St. Luke ii, 1-7, furnishes the first authentic information as to when the event referred to took place, *i.e.* that it coincided with the taking of a census that had been ordered by Cæsar Augustus. If, therefore, we can ascertain when the decree ordering this particular census was issued we shall be able to determine the approximate date when it was given effect to. It so happens that in Ancyra, Turkey, there is an old temple dedicated to Augustus and Rome on a tablet in the walls of which there is inscribed a copy of a document prepared by Augustus shortly before his death in A.D. 14, in which he gives a résumé of the principal events of his reign. In this, *inter alia*, it is stated that he ordered a census to be taken on three separate occasions, *i.e.* 28 B.C., 8 B.C., and A.D. 14. It is evident that neither the first nor the last of these could be the census referred to by Luke, which must have been the one taken, or ordered to be taken, in 8 B.C. The year in which our Lord was born could therefore be no other than that year. This is confirmed by the additional information given by Luke, that when this particular census was taken, Quirinius was governor of Syria, and that as this same Quirinius was twice governor of Syria this census was the one taken during his first governorship. It has also recently been discovered that a fourteen year census was instituted in Syria and Palestine, which continued to be observed for several hundred years and that this was the first of the Syrian series of censuses, the second being held in A.D. 7. For many years the reference to Quirinius proved a stumbling block in the elucidation of the date of the birth of our Lord, but comparatively recently, it has been found that Quirinius was military governor of Syria in the years 10-7 B.C., being at the time engaged in the subjugation of the Galatian tribe of Homonades. The expedition had its base in Syria, and Quirinius, as military governor, was superior to the civil governor, Saturninus, whose term of office extended from 9 to 6 B.C. Tertullian says Christ was born at the time of the census and during the governorship of Saturninus. Luke says he was born during the governorship of Quirinius, so that both are right. Justin Martyr also writes of our Lord having been born during the governorship of Quirinius.

The most probable time of the year for the census to be taken was between August and October, so that we may assume that the birth of our Lord took place about that time of the year. The flight into Egypt may have taken place early in 6 B.C., and the return from there immediately after the death of Herod in 4 B.C. This question has been exhaustively discussed by more than one writer so that it is unnecessary to deal further with it here.

[*Note.*—With reference to the statement in Luke ii, 42, that when He was twelve years old they went up to Jerusalem after the custom of the feast (Passover). Our Lord completed his twelfth year in the autumn of A.D. 6. The Passover following took place therefore in March, A.D. 7. Quirinius was at that time Governor of Syria for the second time and Coponius was Procurator of Judea but subordinate to Quirinius. It was quite in accordance with Jewish practice that one who had attained the age of twelve should be present at the observance of the Passover and this was what happened.]

2. The second important date in the life of our Lord is that connected with the fifteenth year of Tiberius when John the Baptist came preaching in the wilderness of Judea. The question then is, what was the fifteenth year of Tiberius? The Authorized Version says it was in the fifteenth year of the reign of Tiberius Cæsar that John came preaching in the wilderness, but the Greek word used in Luke iii, 1 (*hegemonias*), means not so much reign as rule or government. It is equal to *Legatus Cæsaris*; an officer administrating a province. Tiberius was the stepson of Augustus. He was born about 42 B.C. and after being engaged in military operations in Gaul for a number of years, returned to Rome in 7 B.C. He then became consul, an office that he had already held once, and was given the title "tribunitia potestas." Family troubles caused his retiral to Rhodes immediately his year of office as consul was over and he did not return to Rome until A.D. 2. In that year Lucius Cæsar, and in A.D. 4 Gaius Cæsar, the adopted sons of the emperor, died, and Augustus in the latter year adopted Agrippa Postumus and Tiberius as his heirs. Agrippa proved incompetent and later died, and Augustus with the intention of openly devolving upon Tiberius a share in the government, insisted that he should accept the powers

of the tribunate for a second term. In addition to the "tribunitia potestas" Augustus conferred upon him also the *proconsulare imperium*. These two things were the essential ingredients of imperial authority. Tiberius was also given the title of *Imperator*. This formal investiture with the insignia of office was universally regarded as his virtual introduction to the first place in the empire. "I do it," said Augustus, "for the public weal." A.D. 4-5 being the year when Tiberius was adopted into the Julian family, associated with Augustus in the government of the empire, and recognized as the heir to the throne, his fifteenth year was therefore A.D. 18-19, which was the year when John the Baptist came preaching the baptism of repentance for the remission of sins. The evidence as to this is absolutely conclusive. The only other year from which the rule or government of Tiberius could possibly count would be A.D. 14, the year when he became sole emperor. That would make A.D. 28-29 the date when John began his ministry. Our Lord would in that case have been about 36 years of age when He began His. If, as seems practically certain, He began His ministry about A.D. 20, the Crucifixion, as will be shown, would take place in A.D. 24.

3. *The year of the Crucifixion.*—The first thing that requires to be done to determine the exact year is to ascertain the day of the week on which the Crucifixion took place. It has for long been assumed that the day of the week was Friday, although here and there objection has sometimes been raised to it as the actual day. That this objection is well founded will be shown in what follows.

It is admitted that the Crucifixion was followed by a day spoken of as the Sabbath. That particular Sabbath was, it is also admitted, the Sabbath of the first day of the feast of Unleavened Bread, which invariably fell on the day of the full moon, viz., on the fifteenth Nisan, unless on those rare occasions when the Sabbath of the first day of the feast coincided with the weekly Sabbath. In other words, because of the fact that the first day of the feast of Unleavened Bread was observed as a Sabbath, there were always two Sabbaths in Passover week. When the Sabbath of the first day of Unleavened Bread and the weekly Sabbath coincided, special arrangements had to be made.

According to Wieseler's "Chronological Synopsis," the only years in which the fifteenth Nisan fell on a Saturday, *i.e.* on

the weekly Sabbath, were A.D. 29 and A.D. 32. If the Crucifixion took place on a Friday, it must therefore have been in one or other of these two years. Dr. Christie, of Haifa, however, points out that there is a Jewish regulation which hinders the Passover day from falling on a Friday. For other reasons also it will be shown that neither of the two years mentioned could have been the year in which the Crucifixion took place.

If Friday is ruled out, and with it the only two years in which the Passover could have fallen on that day, the question then arises on what other day and consequently in what other year did the Crucifixion take place.

An examination of the record as given in the gospels indicates quite clearly that there was one day, and only one, between the two Sabbaths in that particular Passover week. From this we infer that the day of the week on which the Crucifixion took place was not Friday but Wednesday and that the Great Sabbath of the feast of Unleavened Bread fell on a Thursday, the day of the full moon. It was followed by one free day, the Friday, which in turn was succeeded by the weekly Sabbath, our Saturday.

That being so the question is: In what years did the fifteenth Nisan fall on a Thursday? Turning to Wieseler once again we find that the only years about that time when the fifteenth Nisan fell on Thursday were A.D. 24 and A.D. 33. With A.D. 29 and A.D. 32 ruled out, it follows as a matter of course that the only year in which the Crucifixion could have taken place must have been one or other of those two years, *i.e.* either A.D. 24 or A.D. 33. There are, however, other considerations which definitely exclude A.D. 33 also, and there remains only A.D. 24 as the year of the greatest event in the world's history. Incidentally, it is to be noted that in addition to other objections, A.D. 33 is definitely ruled out as the 1900th anniversary of Pentecost by the fact that those sponsoring this hold that the Crucifixion took place on a Friday, while the fifteenth Nisan, A.D. 33, fell, not on a Saturday as it would have done if Passover day had taken place on Friday, but, as already stated, on Thursday. Then as regards those who claim A.D. 30 as the year, in A.D. 30 the fifteenth Nisan fell on a Wednesday which would have necessitated the Crucifixion taking place on a Tuesday—a day that has never at any time been suggested as

the day when it took place. (In Passover week A.D. 31 the fifteenth Nisan was a Tuesday.)

That the Crucifixion took place on a Wednesday and not on a Friday, is confirmed by such passages as Luke xxiii, 52-55, and parallel passages in the other gospels. It is not disputed that the Crucifixion took place on the day spoken of as the "Preparation," which in turn, immediately preceded the day of which it is said "that Sabbath was a high day" (John xix, 31). It was with reference to it, that the Jews besought Pilate that the legs of those crucified might be broken so that they would not remain on the cross on the Sabbath day.

When Joseph of Arimathea came and laid the body of Jesus in the new tomb it must have been almost exactly six o'clock, as we read that "It was the day of the Preparation and the Sabbath drew on."

Nothing more could be done that evening nor could anything be done on the Sabbath itself, but as soon thereafter as possible, viz., on the day immediately succeeding the great Sabbath, the women, as we are told in one place, bought spices (Mark xvi, 1) and, as we are told in another place, prepared them (Luke xxiii, 56) and then rested the Sabbath day (*i.e.* the weekly Sabbath), according to commandment, so that there was evidently one clear day, and only one, between the two Sabbaths. In like manner, as the Jews could not have known where he was buried until after the Sabbath had begun, they also could do nothing more until that particular Sabbath (called great) was past, but as soon as ever they could act in keeping with their own law, they went to Pilate and begged that the sepulchre might be made sure until the third day, lest His disciples should come and steal Him away, and then, having sealed the stone in presence of their own temple guard, they too rested the Sabbath day according to commandment (again the weekly Sabbath). They too required one free day that was not a Sabbath to attend to these matters. The Crucifixion must therefore have taken place on the Wednesday. Jesus died at 3 p.m., on that day, hung on the cross until nearly 6 p.m., was then taken down and laid in the tomb, where he remained until 6 p.m. on the Saturday, when he rose from the dead.

This is confirmed by Matt. xxviii, 1, which reads: "In the end of the Sabbath as it began to dawn (or draw) towards the first day of the week (the very same word used in Luke xxiii, 54),

came Mary Magdalene and the other Mary to see the sepulchre." The angel, who appeared unto them informed them that Jesus which was crucified had risen, even as he said. That these same women went away and apparently became convinced, or accepted the assurance of others, that the whole thing was an hallucination, and came back the next morning bearing the spices which they had prepared, does not alter the fact that their first coming to the sepulchre was just at the end of the Sabbath, and that Jesus must accordingly have risen at 6 p.m. on our Saturday, exactly three days and three nights after He was placed in the tomb, as He Himself had definitely foretold.

Further confirmation of what has just been stated is found in Mark viii, 31, where our Lord tells His disciples that He would be killed and after three days rise again, and in Matt. xxvii, 63, where his enemies use the very same words "after three days."

To claim that the expression "three days" means only part of one day, then the whole of the second, and a part of the third, and that it might, as a matter of fact, mean only twenty-six hours, has led to serious error in the past and may do so again. The error that crept in was that our Lord did not really die, but only fainted or fell into a trance out of which he awakened twenty-six hours after He had been laid in the grave, and was spirited away by His disciples.

The Jews believed that the spirit did not actually leave the body until after three days, and three days and three nights were therefore necessary to bring definite conviction to all, whether friend or foe.

The three days implied in the words "the third day" and the three days spoken of as "three days" are not synonymous. The third day is the third legal day, the Sabbath being a *dies non*. The first day in that case began at 6 p.m. on Tuesday night and ended at 6 p.m. on Wednesday, during which the arrest, trial, and Crucifixion, all took place. The second day began at 6 p.m. on Thursday and ended at 6 p.m. on Friday, during which the women bought and prepared the spices, and the chief priests and Pharisees went to Pilate, and having obtained his permission, placed a temple guard over the tomb and sealed it in their presence. The third day began at 6 p.m. on Saturday and ended at 6 p.m. on Sunday. At the beginning of that day (*i.e.* at the end of the weekly Sabbath) the two Marys came to the tomb and found that Christ had risen. They returned the

next morning with the other women and again met angels; Peter and John came running, and saw, and believed; Christ met Mary, and later, Peter. Two disciples went to Emmaus, meeting and conversing with our Lord by the way and recognizing Him later in the breaking of bread.

The three days began at 6 p.m. on Wednesday and ended at 6 p.m. on Saturday. They included the great Sabbath, the Friday that followed, and the weekly Sabbath which the Friday preceded, but as no action was involved while our Lord lay passive in the grave there was no violation of the Sabbath law. Matt. xxvii, 62-64, illustrates both usages. The term, third day, occurs thirteen times in this connection and in each case means the third legal day.

Three days and three nights in the heart of the earth were necessary: (1) That there might be no room for Jewish incredulity; (2) To preclude all doubt that death had actually taken place; (3) To shut out all suggestion that it might have been a trance or a mere case of resuscitation. Three days may be a recognized Hebrew idiom for any part of three days and three nights, but when the number of nights is stated as well as the number of days, it ceases to be an idiom and becomes a literal statement of fact.

Incidentally it may be noted that with 8 B.C. as the date of the Nativity, and say, A.D. 33 as that of the Crucifixion, the latter would conflict with the statement in Luke iii, 23, that Jesus Himself when He began was about thirty years of age. He would in that case have been about 36 when He began His public ministry, and 40 at its close. Space does not permit of a detailed reference to the fact that Sabbath was invariably a *dies non* whether it were the weekly, or one of the special Sabbaths.

The fifteenth year of Tiberius, and the day of the week on which the Crucifixion took place, are pivotal points in the consideration of the whole subject, but there are other events which, while not so essential, are definitely confirmatory of the position here taken up. There is, for example, the date when the rebuilding of Herod's temple began, of which it was said that it had then been going on for 46 years. Josephus in his "Wars of the Jews" says Herod began to build the temple in the fifteenth year of his reign, but in "Jewish Antiquities," he says it was in Herod's eighteenth year. The forty and six years must therefore date from one or other of these years.

There is no dispute as to the year when Herod began his reign. He was made Tetrarch of Galilee by Anthony in 41 B.C. and elected king of Judea by the Senate of Rome on the joint recommendation of Anthony and Octavius in 40 B.C. His reign must therefore of necessity count from one or other of those two years. The eighteenth year from 40 B.C. brings us to 23 B.C. The fifteenth year from the same year, leads to 26 B.C. Forty-six years from 26 B.C. brings us to A.D. 21, while the same period from 23 B.C. leads to A.D. 24, either of which falls definitely within the period of our Lord's public ministry. As the rebuilding of the temple was not finally completed until about A.D. 62-65 it would not have been correct to speak of it as having been under construction for only 46 years if the remark were made in A.D. 28 or 29 or any subsequent year.

One question that has been raised is whether there were two cleansings of the temple—one at the beginning and the other at the end of our Lord's ministry—or only one, and that at the end. If the rebuilding began in Herod's fifteenth year, and assuming that there were two cleansings, it is conceivable that the first of these—that referred to in John when the remark about the forty-six years was made—might have taken place in A.D. 21, *i.e.* in the early part of our Lord's ministry, and the second—that referred to in all the three Synoptics—just a few days prior to the Crucifixion. The account as given in the Synoptics is evidently in chronological order. That is not necessarily the case as regards the first half of John's gospel.

In favour of the theory that there was only one cleansing, and that it took place on the occasion of our Lord's last visit to Jerusalem just before His death, is the fact that the false witnesses, in their testimony, professed to be repeating the statement made by Him as to His rising again on the third day, even if it were in a distorted form, and the chief priests said the very same thing in their interview with Pilate. It would not be at all surprising that they should do this if the incident occurred only a few days previously. Were they, especially the false witnesses and other passers by, equally likely to refer to a definite statement such as this if it were made, not a few days merely, but three years prior to the time when it was quoted? If the cleansing of the temple took place only once, it would indicate that the rebuilding began in the eighteenth

year of Herod's reign, counting from 40 B.C. and not the fifteenth. In either case, A.D. 24 is indicated as the year of the Crucifixion.

Omitting any detailed reference to other confirmatory incidents such as the date of the marriage of Herod and Herodias, the period of office of Pontius Pilate, etc., we shall note very briefly the confirmation supplied by incidents in the life of Paul and in the prophecy of the 69 weeks in Daniel, and conclude with a brief summary of the whole.

The dates of Paul's Conversion and of his First and Second Visits to Jerusalem.

The dates of Paul's conversion and of his first and second visits to Jerusalem, as well as the date of the first epistle to the Galatians, are all so many additional confirmations of A.D. 24 as the date of the Crucifixion, but space forbids more than a chronological summary of these different points. It is as follows :

Date of Crucifixion A.D. 24.

Date of Paul's conversion A.D. 27.

His first visit to Jerusalem A.D. 30.

His second visit A.D. 44.

First Missionary journey began about A.D. 45.

The stoning at Lystra, probably about A.D. 46.

The return to Antioch in Syria about A.D. 47-48.

The defection of the Galatian churches A.D. 48-49.

Peter's visit to Antioch about the same time.

The epistle to the Galatians written from Antioch A.D. 49-50.

The Council at Jerusalem and Paul's third visit A.D. 51 or 52.

All of which fit in perfectly with the claim that the Crucifixion took place in A.D. 24.

Daniel's Prophecy of the Seventy Weeks.

Turning from the New Testament to the Old, we find still further confirmation as to A.D. 24 being the date, in the prophecy of Daniel ix., 26, on the one hand, and the record of its primary fulfilment as given in the Book of Ezra on the other.

The weeks referred to in the prophecy are admittedly weeks of years and total altogether 483 years. That length of time after an event still future, the Messiah, who will then have appeared on the scene, will be cut off. The command or permission to Ezra to return and rebuild the city and temple, was evidently given about the month of April, in the sixth year of Artaxerxes, which was 460 B.C., Artaxerxes having succeeded to the throne when his father was assassinated in May, 465 B.C., although his proclamation did not take place until December 7th of that year. On the first day of the first month of the seventh year, *i.e.* September-October of 460 B.C., Ezra and those who were journeying with him, set out. 483 years from April of that year bring us to A.D. 24, the very year in which the Crucifixion took place.

Confirmation from China.

Still further confirmation comes from China, to the effect that the story of the Crucifixion, etc., reached there sometime in the years A.D. 25-28. In conclusion it may be well to summarize the different points which have been proved, but regarding which it has only been possible to give the briefest outline.

Summary.

As regards the Nativity. It has been shown that the date of it coincides with the census referred to by Luke, and that that particular census was the second of the three ordered by Augustus. That it took place in 8 B.C. is confirmed, as has been shown: (1) By the inscription on the temple to Augustus in Angora; (2) By the fact that Quirinius is now known to have been Legate of Syria, and in charge of the punitive expedition against the Homonades about 10 B.C.-7 B.C. and that he was governor in Syria for the second time, A.D. 6-7, but that the census took place during his first governorship, the civil governor at that time being Saturninus; (3) By the discovery recently made that 8 B.C. was the first of a fourteen yearly census which continued till A.D. 329.

Further, the star which brought the wise men to Jerusalem and Bethlehem finds a possible explanation in the triple conjunction of the planets, Jupiter, Saturn, and Mars, which took

place in March of 6 B.C., although the death of Herod did not occur till two years later in 4 B.C.

Then as regards the Crucifixion. There are no less than nine converging lines, all of which point to A.D. 24 as the date of that event—the only date that satisfies all the conditions involved.

1. The fact that A.D. 19 was the fifteenth year, not of the reign but of the rule or hegemony of Tiberius Cæsar, A.D. 4–5 being the year when he was adopted into the Julian family, associated with Augustus in the government of the empire, and recognized as the heir to the throne. A.D. 18–19 was therefore the year when John the Baptist came preaching in the wilderness, thus indicating A.D. 20 or 21 at the latest, as the year of our Lord's baptism and A.D. 24 as that of the Crucifixion.

2. The fact that the Crucifixion took place on Wednesday the fourteenth Nisan in a year in which the fifteenth Nisan fell on a Thursday; a coincidence which occurred in A.D. 24, but did not recur until A.D. 33. One or other of those two years must therefore have been the year of the Crucifixion, being the only years in which it could have taken place on a Wednesday. A.D. 33 is, however, ruled out on other grounds leaving A.D. 24 as the one possible year.

3. Luke's statement that when our Lord began (His mediatorial or high-priestly work) He was about thirty years of age.

4. The usage of the terms "the third day" and "after three days," and the fact that Sabbath was a *dies non*.

5. The date when Herod began the rebuilding of the temple *i.e.* 26 or 23 B.C., and the probable date of the marriage of Herod and Herodias.

6. The period of office of Pontius Pilate and the date when he was deposed by Vitellius as confirmed (a) by incidents in the war between Parthia and Rome (b) by the war between Herod and Aretas, and (c) by the career of Asineus and Anileus.

7. The dates of Paul's conversion and of his first and second visits to Jerusalem, including also the date of his epistle to the Galatians.

8. The period of 483 years, which, according to Daniel, was to elapse between the issuing of a command to rebuild Jerusalem, which was given in 460 B.C., and the cutting off of the Anointed One, the Prince, a period which was exactly fulfilled in A.D. 24.

9. The report from China that the story of the Crucifixion, etc., reached there sometime between A.D. 25-28, a maximum period of less than four years.

The only possible alternative to A.D. 24, as already indicated, is A.D. 33 in which equally with A.D. 24, the fifteenth Nisan fell on a Thursday. A.D. 33 can also be made to meet the requirements implied by the phrase "the fifteenth year of Tiberius" by counting, not from the time when Tiberius became associated with Augustus in the government of the empire and was adopted into the Julian house but from the time when he became sole emperor. The fifteenth year in that case would be A.D. 29 instead of A.D. 19. In every other respect, however, A.D. 33 fails to meet the requirements of the case while A.D. 24 does.

A three-fold cord, we are told, is not easily broken. Much more is this the case when the number of strands is not three only, but three times three. And when there is nothing that can be adduced to the contrary, the conclusion arrived at is placed beyond dispute.

DISCUSSION.

The CHAIRMAN (Colonel Arthur Kenney-Herbert), said: This is the third paper dealing with the Chronology of the Lord's Life which has been read before this Institute in the last five years. These three papers have approached the question from three different points of view.

The first paper was a simple Bible study, based on the theory that if God has meant us to know the exact date of the Crucifixion we may be confident that He has supplied us in the Bible with sufficient data to solve the problem, and that this data has been expressed in language intended to be understood in the simplest possible way. The conclusion arrived at was that the Lord was crucified at 3 p.m. on Friday, the 3rd April, A.D. 33 (Julian date).

In the second paper (January 5th, 1931) Col. Shortt said: "It is very remarkable that after nineteen hundred years, with all our modern methods of criticism and inquiry, the datings of Our Lord's Life and Ministry have not been definitely determined. The reason of course is simple, and lies in an unfortunate clash between the statement in Josephus' "Antiquities of the Jews" that Herod reigned 34 years, and St. Luke's precise dating of the beginning of

the Ministry of John the Baptist as occurring in the fifteenth year of Tiberius," etc. The paper critically examined the facts of the Gospel story, and also the statements of Josephus. Col. Shortt made out a case worthy of careful consideration, and concluded that our Lord was crucified in A.D. 33.

But modern methods of criticism and inquiry are not always so loyal to the veracity of the Bible record. The student who wants to collect all the information he can will naturally consult some recognised authority such as the *Encyclopedia Britannica*. I quote from the article on "the Chronology of the Gospels," 11th Edition, Vol. 3, page 887, etc., *re* the census: "The notice in the Gospel, it is suggested, grew out of a confused recollection of the later (and only historical) census, and is devoid of any value whatever." Again, *re* the 15th year of Tiberius "or St. Luke has made a second error in chronology." Those who cannot accept the Divine veracity of the gospel of Luke have no solid foundation for their conclusions. They must decide between the conflicting evidence of two principal and many minor witnesses. Some will incline to one, some to another. There must be compromise; some will compromise here and some there. Therefore the solution of the problem becomes a matter of personal opinion, rendering a common agreement as to a "determined" date quite out of the question. Incidentally, I may add that the writer of the article quoted concludes: "Thus A.D. 29 is the year, the 18th of March the day, to which Christian Tradition (whatever value, whether much or little, be ascribed to it) appears to point."

Anstey, following Andrew's Life of our Lord, accepts the year A.D. 30. Therefore whether the purely Biblical method or the modern critical method be adopted, it has generally been held that our Lord was crucified either in A.D. 29, 30 or 33.

Now the paper which has been read to us this afternoon tries to show that in reality the Lord died in the year A.D. 24. This date is so unusual that we may well ask ourselves why the writer has adopted it, for there must have been some cogent reason in his mind which has justified his re-adjustment of the dating of the well-known historical facts.

I think the reason can be found in the interpretation which Dr. Stewart places on Matt. xii, 40—the traditional interpretation, that

our Lord there announced that He would lie in the grave three complete days and nights. This interpretation postulates, as Dr. Stewart says "that Jesus must accordingly have risen at 6 p.m. on our Saturday, exactly three days and three nights after He was placed in the tomb," *i.e.* at about 6 p.m. on the Wednesday. Many accept this interpretation without working out the consequences. We owe Dr. Stewart a debt of gratitude for having done so for us in this paper. There is only one year in which the 14th Nisan fell on a Wednesday, and that year was A.D. 24, which Dr. Stewart has accordingly adopted. If we hold this interpretation to be correct, I do not see how we can logically escape Dr. Stewart's date and the necessary readjustment of all the historical facts. If we question his facts, we question also the interpretation on which they are built. Logically, we must accept his paper as a whole or reject it.

Some people make a difficulty about the visibility of new moon. The new moon is generally visible about 18 hours after astronomical new moon, but there is no need to see every new moon. Those who were responsible for the correct observance of the offerings appointed for the day of new moon would soon recognize the fact that if one month had 30 days the next would have only 29. This sequence holds good for some months in succession, occasionally, two months of 30 days might come together. The new moon of great importance was the 1st of Tishri, the day appointed for the Feast of Trumpets. I have made a list of the dates of all the new moons from August A.D. 28 to May A.D. 33, using Grattan Guinness' Tables of New Moons, allowing at least about 18 hours for visibility. It is wonderful how seldom it would have been necessary actually to see the new moon, in order to maintain the correct sequence of 30 and 29 days. If the harvest moon of September A.D. 31 had been properly observed, and the sequence maintained up to March A.D. 33, the correct date for this New Moon could have been determined either by actual observation or by dead reckoning. In either case the 14th Nisan in that year would have fallen on a Friday.

Incidentally I would question some of Dr. Stewart's statements as to the days on which the 14th and 15th Nisan fell in 32 and 33. The next crucial point is the 15th Tiberius.

I read in the article "Augustus," *Encyclopedia Britannica*, 11th Edition, Vol. 2, page 914: "Yet in A.D. 13 he consented, reluctantly

we are told, to yet one more renewal of his *imperium* for ten years, stipulating that his stepson Tiberius, himself now over fifty, should be associated with himself on equal terms in the administration of the Empire." If this statement is true, I do not see how the era of Tiberius can count from any earlier date than A.D. 13.

There is one more point I would raise, hoping that it will meet with adequate consideration in the discussion. A friend tells me that the word *paraskeue* in modern Greek means Friday, and *Sabbaton* means Saturday. This is no modern development of meaning, for Browne in his *Ordo Sæclorum*, page 54, quotes a decree of Augustus, where the word *paraskeuê* is used in this sense. If words are used in their ordinary meaning, I do not see how *paraskeuê* can be made to mean Wednesday.

There are other points which demand careful consideration and justification before they can be accepted as proved. I trust that they also will be dealt with in the discussion.

It is my duty to propose a vote of thanks to Dr. Stewart for the paper; I trust you will show your appreciation of the labour which he has undertaken on our behalf, in a hearty acceptance of this proposal.

Lieut.-Colonel HOPE BIDDULPH said: The date of the Nativity is placed 8 B.C. and that of the Crucifixion A.D. 24. As the first is said to have been in the autumn and the latter in the spring, a period of thirty and a half years only is allowed for the duration of our Lord's life on earth. As He is stated to have been "about thirty years old" at His baptism this restricts His ministry to less than one year, which is irreconcilable with the number of Passovers mentioned in the records.

Brig.-General G. B. MACKENZIE said: Sarah is the only woman whose age at death is recorded in the Bible; she died aged 127. As Isaac was born when she was 90, he was 37 when she died and Rebecca was brought into Sarah's tent. Now if, as I think, Isaac is a type of Christ, Rebekah, Isaac's bride, a type of the Church, and Sarah a type of Israel, Jehovah's bride, should we not expect to find that the period of 37 years after the birth of our Lord the nation of Israel was replaced by the Church as the organism in which God's working was displayed? This condition would be

satisfied if the late Colonel Mackinlay's dates for the birth and crucifixion of our Lord, viz., 8 B.C., and A.D. 29, are accepted; or if the dates 4 B.C. and A.D. 33, referred to in Dr. Stewart's paper, are accepted, but not if the dates 8 B.C. and A.D. 24 are correct.

Dr. NORMAN S. DENHAM said: It would have been gratifying had the dates given us satisfied known historical data; but they bristle with contradictions. I refer to the lecturer's points *seriatim* :—

The Nativity.—The fact that Luke wrote "This enrolment first came to pass," conveys that the actual enrolling of Joseph fell later than Cyrenius' *hegemony*. The Romans and Herod, anxious to conciliate the refractory Jews, would leave it to the one slack period among an agricultural people, namely, October.

The Star.—The most plausible suggestion is that of Kepler, who recorded the temporary appearance of a new star after the conjunction of Jupiter, Saturn and Mars in A.D. 1605, and surmised that a similar phenomenon followed the conjunction of 7-6 B.C.

Herod died some months after an eclipse identified as the lunar eclipse of March 13th, 4 B.C., and it is further shown by Josephus that his death occurred some weeks before a Passover. His death occurred on 2nd of Sebat, by January 20th. As it is manifestly impossible for the events narrated by Josephus to fall between that eclipse and the Passover of 4 B.C., it is incontrovertible that Herod died in January, 3 B.C. The birth of our Lord, falling in October, 5 B.C. would allow the time computed by Matthew "two years old and under" (Matt. ii, 16).

(1) Velleius records that authority equal to that of Augustus was granted to Tiberius in respect of the armies and provinces before the triumph celebrated on January 16th, A.D. 12. The Decree, late in A.D. 11, as Sir William Ramsay shows, is therefore that from which Luke reckons his "fifteenth year." The reign of Titus was similarly reckoned from the date he became colleague with his father Vespasian. Tiberius' fifteenth year would thus fall in A.D. 26.

(2) It is becoming increasingly evident that the Resurrection fell on Wednesday, the 14th Nisan; but it does not therefore follow that A.D. 24 was the year. The Jews had calendars wherein were noted all fasts and feasts; these tables are sometimes referred to

in the Talmud: Eusebius, Epiphanius, Cyril and Prosper all mention this calendar. Fynes Clinton admits its existence, and refuses to be bound by astronomical calculations or theories of observation for the new moon's disc whereby to establish the Jewish new year's day.

(3) "Thirty Years of Age." Ramsay, Gresswell, Mackinlay and others show that the Jews, in referring to time, abhorred the use of precise terms, though certain of the date mentioned. Hence we may not depart from Luke's definite "thirty years."

(4) Would the lecturer specify the authorities to which he refers for reckoning the Sabbath as a *dies non*—a reckoning which happily reconciles the apparently conflicting evidence of Luke xxiv, 21 ?

(5) Herod's Temple.—By the literary figure of *enallage* the verb is put, not for the doing of a thing, but as beginning to do it. As Herod began to prepare for the building of the Temple in 19 B.C. (Dionysius lix, 7, and Josephus Wars I, xx, 4), the 46 years of John, ii, 20, would reach exactly to the first Passover of the Ministry, A.D. 27.

(6) It is more than doubtful if Pontius Pilate was Procurator of Judea in A.D. 18. He is generally held to have succeeded Gratus in A.D. 26, as noted by Josephus (Ant. XVIII, iv, 2).

(7) The dates of the Acts are subjective and indeterminate.

(8) The only Decree that answered Daniel's prayer, and resulted forthwith in the building of both Temple and City, was that of Cyrus's first year (Is. xlv, 13, and Josephus Ant. II, i, 3). Ample proof can be given that Ptolemy's dating of the Persian era was wrong by an excess of 79 years. Consequently, 483 years inclusive from 457 B.C. (Cyrus I) bring us to A.D. 26 precisely, *i.e.* the Baptism. In A.D. 30, in the midst of the remaining 70th Sabbatic week of years, the Messiah was cut off. A.D. 18 was definitely not Sabbatic, whereas A.D. 26 was a Sabbatic and Jubilee year. The "acceptable year" of Luke iv, 19, was the Jubilee year of national restoration prophesied to arrive by the advent of the Messiah by the prophet Isaiah (xi, 2). The 70 weeks were Sabbatic weeks !

Israel's national existence was inaugurated by 40 years' probation in the wilderness ; it closed with a final 40 years' probation from the Crucifixion, A.D. 30, to the Dispersion, A.D. 70. While

appreciating the care and thought expended on the paper one has to confess that the lecturer has "torpedoed" the best findings on this vexed subject.

Mr. GEORGE BREWER said: Our thanks are due to Dr. Stewart for his instructive paper, and the trouble taken to fix as far as possible the dates of the birth, public ministry and crucifixion of our Lord, and especially his showing that in whatever year the Crucifixion took place it must be one in which the 14th Nisan fell on Wednesday.

While it would appear to be difficult to fix with certainty the year of the crucifixion there is abundant evidence that the day was the fourth day of the week, from sunset, Tuesday, to sunset, Wednesday, and not Friday.

It is generally agreed that the Crucifixion took place on the Day of Preparation, when the sacrificial lambs were slain; that the day following was a special Sabbath or High Day, during which no work could be done; that our Lord expired shortly after the ninth hour (about 3 p.m.); that to Pilate's inquiry of the centurion if Jesus had been a long while dead, he replied in the affirmative; there could therefore have remained but a very short time, probably less than two hours for the body to be taken down from the Cross, embalmed by Joseph and Nicodemus, and laid in the tomb before 6 p.m., when the Sabbath commenced. Mark tells us that Mary Magdalene and Mary the mother of James beheld how the body was laid, and upon the supposition of Friday being the day there would have been little time left, possibly but a few minutes, for them to buy and prepare the spices and ointment for the anointing of the body.

The 14th Nisan, falling on the Wednesday, they had sufficient time and opportunity to carry out their devoted services on the only day left to them between the two sabbaths—sunset, Thursday, to sunset, Friday, and so be ready for their intended visit to the sepulchre when the weekly Sabbath was passed.

Our Lord's own words recorded in Matt. xii, 40, should, however, settle the matter: "For as Jonas was three days and three nights in the whale's belly; so shall the Son of Man be three days and three nights in the heart of the earth."

The explaining away of this passage in order to support the tradition of Friday by reference to the Hebrew idiom of speaking of part of a day as a whole day, and even comparing it with our loose phrase "week-end," which may mean anything from one to five days, seems to be trifling with a very serious subject.

Mr. SIDNEY COLLETT said : I join with those who thank the lecturer for his paper ; and incidentally I may say that I have long believed what he has endeavoured to prove, that Wednesday was actually the day on which our Lord was crucified. My object in rising, however, is to call attention to the suggestion that the star which guided the wise men to the infant Saviour was the triple conjunction of the planets Jupiter, Saturn and Mars. I am aware that similar suggestions have been made from time to time by astronomers and others, but is any such strained explanation called for ? A moment's reflection should be sufficient to show that the suggestion is unnecessary. The Scripture statement is that the star which they (the wise men) saw in the East went before them till it came and stood over where the young child was. Seeing that the planets named are some hundreds of millions of miles distant from the earth, how is it possible to accept such language ? Why not discern in this star the creation of a new luminary, quite near to the earth, and made to move before the wise men, leading them along the seven miles journey from Jerusalem to Bethlehem, and finally indicating the very house where the Saviour lay ? When its specific purpose was accomplished the star might vanish as suddenly as it had first appeared. I suggest that many such problems may be readily solved if in reading the Scriptures we are prepared to recognize the miraculous statements found therein.

Mr. G. WILSON HEATH said : Dr. Stewart confirms the views of many, including my own, that Wednesday of that " Week of Weeks " was the 14th Nisan, the day of " preparation " and the day of the crucifixion of our Lord. The following day, commencing at 6 p.m. on the Wednesday, was Thursday, the 15th Nisan, the day of the feast, a " high day," a " holy convocation," a Levitical " sabbath."

Further we agree with Dr. Stewart that the " three days and three nights " in the tomb, commenced at (say) 6 p.m. on the Wednesday

at the opening of the 15th Nisan, and came to a close on the following Saturday, the weekly sabbath, at 6 p.m. (Three complete days and nights.) Thus our Lord arose on the Saturday evening, the first hour of "the first of the Weeks" (John xx, 1).

This is about as far as I can go with the paper. The year dates as stated I must I fear refuse. I have for years past sought out all the authorities available, and have found them to be in almost hopeless confusion and conflict.

I suggest that clarity is better reached by following carefully the itinerary of our Lord, day by day, as given in the Gospels, for, say, a fortnight or more before the passover period.

It is comparatively easy to determine that on the evening of Tuesday, the 13th Nisan, our Lord sat down to supper, the last supper, their evening meal (during which He instituted what we call the Lord's supper) with the disciples; and that from that supper He went to the judgment seats of Herod and Pilate, and from thence to the cross and the tomb. This was at the opening of the passover period.

For the chronology of this period I have used for the sake of simplicity the Roman "Anno Urbis" dates. These dates run consecutively, without of course any B.C. or A.D. breaks, and this for many hundred years before and after the events we are considering. All agree that a sure datum to start the period on is the date of the *Battle of Actium* in anno urbis 722 or its equivalent, 31 B.C.

The nativity of our Lord was in anno urbis 749 or 4 B.C.

The Christian era (arranged by Dionysius Exigous in A.D. 532) began when our Lord was 4 years old, in anno urbis 753.

The 1st year of Tiberius Cæsar (in association with Augustus) was in anno urbis 765, or in A.D. 12.

Augustus Cæsar died in anno urbis 767 or A.D. 14 (as stated on page 3 of the paper).

The 15th year of Tiberius was anno urbis 779 or A.D. 26, when St. Luke tells us our Lord was "about 30 years old" (See St. Luke iii, 23).

The 18th year of Tiberius was anno urbis 782 or A.D. 29, the year our Lord was crucified.

I need not say that the overlapping of the B.C. and A.D. dates by 4 years has caused continual confusion. By working on the

Roman dates confusion I think is avoided, and I suggest A.D. 26 and A.D. 29 are thus definitely fixed as the dates of the opening of our Lord's ministry and of His death.

The "Magi" from the East (not the shepherds of Bethlehem) doubtless saw some miraculous light, like a star, a kind of Shekina glory such as abode in the Tabernacle of old for instance, and this they followed to Jerusalem and then (not to Bethlehem) to Nazareth, the house (not stable) (Matt. ii, 11 and Luke ii, 39) of Joseph and Mary and Jesus, possibly a year or more after the incident with the shepherds. (Read Matt. ii, between verses 39 and 40 of Luke ii.) This was why Herod ordered the babes up to two years old to be slain. He mistook Bethlehem for Nazareth.

WRITTEN COMMUNICATIONS.

Sir AMBROSE FLEMING (President) wrote : I am much interested in this paper by Dr. John Stewart, especially in his discussion of the day of the week on which the Crucifixion of our Lord took place. Although for ages past it has been the custom to celebrate it on a Friday, that custom does not prove its truth, because it has also been the custom to keep December 25th as the day of the Birth, whereas it is as certain as anything can be that the Birth took place in the autumn at about the date of the Feast of Tabernacles.

Everything seems to turn on the mode of reckoning "three days and three nights" (see Jonah, i, 17).

In the Gospel of St. Matthew, xii, 40, our Lord is reported to have said, "As Jonas was three days and three nights in the whale's belly, so shall the Son of Man be three days and three nights in the heart of the earth." If, then, our Lord hung on the Cross for six hours from 9 a.m. to 3 p.m. on a certain day, and was taken down and laid in the grave before 6 p.m. on that day, and rose again early on the first day of the next week he could only have lain in the grave at most about 26 to 30 or 31 hours if the day of crucifixion was a Friday.

As the Jewish day was reckoned from 6 p.m., it is common to reckon the "three days and nights" as comprising the single hour or two on Friday before 6 p.m. and the whole of Saturday up to 6 p.m., and the few hours after 6 p.m. on Saturday before the Resurrection as the "three days and three nights." If, however,

this last expression is to be taken literally as comprising a period of 72 hours, half daylight and half darkness, then it is impossible that Friday could be the day of Crucifixion, and the Crucifixion must be put back to Wednesday, as the author suggests.

It then seems to be merely an astronomical problem to settle in what years the 15th of Nisan or feast of unleavened bread fell on a Thursday at or near the only possible dates A.D. 24 to A.D. 33. As regards the year of the Crucifixion that again seems to be determined by the date of the "15th year of Tiberius Cæsar" (Luke iii, 1).

In a paper by Lieut.-Colonel A. G. Shortt we had read to us on January 5th, 1931, it was claimed that this year was definitely fixed by certain coins which had been found, double dated with the regnal year of Tiberius Cæsar and the years from the battle of Actium, which was fought on September 2nd, 31 B.C. But here again the question is whether the regnal years of Tiberius are to be reckoned from his joint authority with Augustus or his sole authority at the death of Augustus, and the author adopts the view that it is "absolutely certain" the fifteenth year of Tiberius was A.D. 19. He has, however, against him the opinions of many authorities, who assert that the fifteenth year of Tiberius could not have dated except from August 19th, A.D. 14, the date of the death of Augustus Cæsar, and that would seem to fix the year of the Crucifixion as A.D. 33.

Lt.-Col. L. M. DAVIES wrote : I find this a most interesting paper, although it differs widely from some long-standing opinions of my own. One can only raise a few points, so I would ask :—

1. If our Lord was born in 8 B.C., would He not have been 13 years old in A.D. 6 ? We do not drop *two* years in passing from B.C. to A.D.

2. What independent evidence have we that the years of Tiberius were ever reckoned from A.D. 4 ? Luke was writing to a Roman, and would not use a reckoning unfamiliar to the latter ; and Col. Shortt has shown how universally the Romans reckoned the years of Tiberius from A.D. 14 (*Trans. Vict. Inst.*, vol. 63, 1931, pp. 38-54). Remember also that Josephus, who wrote at much the same time as Luke, invariably reckons the reign of Tiberius from A.D. 14 (cf. *Antiq.* 18, 2, 2 ; 18, 6, 5 & 10 ; *Wars* 2, 9, 1 & 5, etc.).

3. Luke iii, 1 shows that Pontius Pilate was Governor of Judea in this 15th year of Tiberius. That suits A.D. 29 all right, for we know that Pilate became Governor in A.D. 26 (cf. *Enc. Brit.*, 1929, vol. 17, p. 925); but how can we square it with A.D. 19? And how date the Crucifixion itself in A.D. 24?

4. Josephus twice (*Antiq.* 17, 8, 1; *Wars* 1, 33, 8) states that Herod reigned 34 years "since he had procured Antigonus to be slain," and 37 years "since he had been declared king by the Romans." These two events can be shown to have taken place in 37 B.C. and 40 B.C. respectively. So it is clear that Josephus recognized those two dates, three years apart, as alternative—*de facto* and *de jure*—commencing points of Herod's reign. Why therefore should his two dates, also three years apart, for commencement of work on the Temple, not both refer to the year 22 B.C.? For that would have been 18 years after 40 B.C., and 15 after 37 B.C. But 46 years from 22 B.C. brings us to A.D. 25—the year after the Crucifixion, according to Dr. Stewart. In any case, since Josephus nowhere indicates 41 B.C. as the commencement of Herod's reign, we have no right to reckon any year of that reign, *quoted by him* from 41 B.C.

5. Where can we find the evidence regarding (a) the tablet recording the dates when Augustus ordered a census to be taken; and (b) the report from China, that the story of the Crucifixion reached there between A.D. 25-28? These two discoveries would appear to be cardinal points in Dr. Stewart's case, and certainly represent serious facts if well founded. They must, however, be as critically examined as other facts have been, if they are to be justly assimilated with earlier known data.

It would also be interesting to know what reliance can be placed upon calculations regarding the days of the week when the 15th Nisan fell, during the years A.D. 24-33. It seems that the slightest slip here might be fatal to Dr. Stewart's whole argument, so far as it concerns the year of the Crucifixion.

His presentation, however, of his grounds for believing that our Lord was Crucified on a Wednesday seems to me to afford a definite contribution to the study of this subject, and for that I welcome Dr. Stewart's paper, even while I doubt that the corresponding year was A.D. 24.

LECTURER'S REPLY.

Replying to the points raised in the discussion, Dr. STEWART wrote: I am indebted to the members of the Institute for the favourable reception accorded to my paper.

It is interesting to notice that the majority of those taking part in the discussion agree with the contention that the day of the week on which the crucifixion took place was Wednesday rather than Friday. If that is admitted it becomes, as Sir Ambrose Fleming writes: "merely an astronomical problem to settle in what years the 15th Nisan fell on a Thursday, at or near the only possible dates, A.D. 24 to A.D. 33." The contention of the paper is that the 15th Nisan fell on a Thursday in those two terminal years, and in those two years only, in the whole of that decade. If Wieseler and others who have furnished data to that effect are wrong it ought to be comparatively easy to show in what respect and with reference to what years they are wrong. Until that is done we must assume that the data given are correct.

Further, if the crucifixion took place on a Wednesday, and if the only years when the 14th Nisan fell on a Wednesday (or the 15th on a Thursday) were A.D. 24 and A.D. 33, the years A.D. 29 and A.D. 32 when the 14th fell on a Friday are (equally with A.D. 30, A.D. 31 and all other years between A.D. 24 and A.D. 33 in which it fell neither on a Wednesday nor on a Friday) obviously ruled out on chronological as well as other grounds.

Not only, however, must the conclusions arrived at be in harmony with such astronomical or chronological data as may be available, but they must at the same time either agree with accepted secular history, or reasons be given why the traditional view has been departed from in any particular case. This principle has been strictly adhered to throughout and the fact that all the different lines of inquiry followed fit in with A.D. 24, as the year of the crucifixion, with such perfect precision, just as if they were pieces of delicate clockwork machinery, tends to confirm the correctness of the claim made.

So far as I am aware, there is not the slightest contradiction between the statements made in the paper and proved historical data, although it has not been possible in the limited space available to state so fully as one might have wished, the evidence on which

the conclusions arrived at are based. The date from which the 15th year of the hegemony of Tiberius counts is a case in point. I need mention only one out of many authorities with reference to it, *i.e.*, *Ency. Brit.*, 14th edition, vol. 2, p. 688. Another is the period during which Pontius Pilate was Procurator of Judea. Reasons, that are very difficult to gainsay, can be given in favour of the claim that Pilate succeeded Valerius Gratus in A.D. 18-19 and that this term of office extended to either A.D. 29 or A.D. 30 when he was deposed by Vitellius.

With reference to A.D. 33 as the probable year of the crucifixion: not only does A.D. 33 conflict with Paul's statement in Galatians that when he visited Jerusalem in A.D. 44, the year of Herod Agrippa's death, it was fourteen years after his first visit which in turn was three years subsequent to his conversion which latter is usually supposed to have taken place three years after the crucifixion, it conflicts also with Luke's statement that when our Lord began (whether His ministry or His mediatorial work) he was about thirty years of age. Had the crucifixion taken place in A.D. 33 he would have been 37 years of age when he began His ministry and 40 when the crucifixion took place. A.D. 24, on the other hand, fits in perfectly not only with Paul's fourteen years, *plus three, plus three*, but with the thirty years mentioned by Luke.

The other points raised during the discussion may be replied to very briefly: It is admitted that the duration of our Lord's earthly life was only thirty and a half years. His public ministry, however, extended over at least three and a half years. His baptism must therefore have taken place about A.D. 20.

Sabbath a *dies non*. In support of the claim that Sabbath was a *dies non* see Schurer: *The Jewish People*, Div. 2, vol. 2, pp. 102, 105; Exodus xx, 8-10; Lev. xxiii, 3; Numbers xv, 32-36; and Luke vi, 1-7.

Herod's 18th year, counting 40 B.C., the year when he was made king of Judea by the Roman Senate, as his first, was 23 B.C. His 15th year counting from 37 B.C., the year when he captured Jerusalem from Antigonus, was also 23 B.C. From 23 B.C. to A.D. 24 inclusive is 46 years.

The prophecy of Daniel is confirmatory only and does not affect the argument. It, however, furnishes an interesting coinci-

dence, to say the least, assuming that the traditional dates are correct.

If our Lord were born in 8 B.C. he would complete his 12th year in the autumn of A.D. 6. The following Passover would fall in the spring of A.D. 7, when he would be $12\frac{1}{2}$ years old.

A translation of the inscription on the tablet in Angora, giving the years of the different censuses, is to be found in Shuckburgh's Augustus, p. 294. Fuller details regarding the story of the crucifixion having reached China in A.D. 25-28 are to be found in "Nestorian Missionary Enterprise," p. 169 (T. and T. Clark).

It is admitted that the conclusions arrived at 'torpedo' many of the findings hitherto accepted on this subject. That, however, is inevitable. The evidence is cumulative and conclusive.

782ND ORDINARY GENERAL MEETING,

HELD IN COMMITTEE ROOM B, THE CENTRAL HALL,
WESTMINSTER, S.W.1, ON MONDAY, JUNE 11TH, 1934,
AT 4.30 P.M.

DR. JAMES W. THIRTLE, M.R.A.S., IN THE CHAIR.

The Minutes of the Meeting of May 28th, 1934, were read, confirmed, and signed.

Before proceeding with the ordinary business of the Meeting, the CHAIRMAN felt it necessary to make the sad announcement of the death of their Vice-President, Professor Theophilus G. Pinches, and asked the audience to stand while the HON. SECRETARY read a resolution of sympathy which the Council desired to put before them. The following Resolution was then read and endorsed, the audience standing:—

“This Meeting learns with profound sorrow of the death of Professor Theophilus Goldridge Pinches, LL.D., M.R.A.S., for many years a Vice-President of the Institute. The end came on Wednesday, June 6th, at his residence, 31, Coniston Road, Muswell Hill, at the age of 78.

“Formerly of the British Museum, in the department of Oriental Antiquities, he was an authority on the Assyro-Babylonian and Sumerian languages, and gave to the world a large number of texts and other monographs of great value.

“From time to time he read papers before the Institute concerned with the languages, history and antiquities of the Ancient East, as these bore upon and illustrated the records of Holy Scripture, and thus he performed service which will long be appreciated by supporters of the Institute.

“The Professor was pre-deceased by Mrs. Pinches, and it was not known whether there were surviving relatives.”

In accordance with the Rules as to awarding of the Gunning Prize in 1934, the name of the Rev. D. E. Hart-Davies, M.A., D.D., was next read out as successful competitor, who, on coming forward, was presented with the prize, a cheque for £40, by the President of the Society, Sir Ambrose Fleming, D.Sc., F.R.S. After brief acknowledgment by Dr. Hart-Davies, Sir Ambrose was then called upon to deliver his Presidential Address on “Truth,” the audience signifying their appreciation in a hearty vote of thanks proposed from the Chair.

ANNUAL ADDRESS.

ON TRUTH.

By SIR AMBROSE FLEMING, M.A., D.Sc., F.R.S.
(*President*).

1. WHAT IS TRUTH ?

PILATE'S insistent question, What is truth ? (John xviii, 38) meets us at every turn. In Courts of Law it is the main object of the procedure to discover the truth concerning the issue, and all scientific research is an endeavour to answer the same question.

Our existence as a Society is determined by a desire to ascertain as far as possible the truth on debated questions in philosophy, religion and science. We have had in the past session many instructive papers read to us in which this effort to reach truth has been manifest.

Hence in this Annual Address we may perhaps usefully spend a few moments in considering methods of reaching truth and the criteria of its attainment in various branches of knowledge.

In the first place one answer to the general question, What is truth ? is, that it is an exact correspondence between events or facts and statements concerning them. If things happen they do so in a certain way or order, and a truthful statement regarding them is one which agrees with the facts.

We are at once met, however, with the difficulty, How shall we ascertain the facts except by human observation and testimony ?

But human observation is imperfect, and what we observe depends to a large extent on our previous training, experience or constitution.

As a starting-point of thought we may notice that there are certain statements we call axiomatic truths, because most of us cannot think of them as contradicted. Our assent to them depends on the structure of our minds, and our minds will only operate in certain ways. We cannot force them otherwise any more than we can make water spontaneously run up hill.

Hence they are true for us as at present constituted. Thus, for instance, when we say that two things which are each respectively equal in any way to a third thing are likewise equal in

that respect to each other, we are stating an axiomatic truth, because we cannot possibly think that two things which are each respectively equal in any way to a third thing are not equal in that respect to each other. In the same way we cannot think that a part of anything is greater than the whole.

There are then a number of self-evident or axiomatic truths consisting of statements which it appears we cannot contradict, constituted as our minds are at present.

Starting with these axiomatic truths we can in certain branches of knowledge derive, by deductive reasoning, certain other consequences which are true though not directly obvious.

Thus, when we have defined what is meant by the words "a plane triangle" we can, by the application of syllogistic reasoning on certain axioms, arrive at the conclusion that the sum of the interior angles is equal to two right angles. But what we are here doing is merely to ascertain the logical consequences of certain assumptions we make on the meaning of words as determined by the structure or limitations of our own minds.

We are not then reaching absolute truth but only relative truth, that is, what is true for us, at present. Other minds, able to perceive that these so-called axioms are not necessarily incapable of denial can arrive at different conclusions. We have a conviction, however, that the external Universe is not wholly the product of our own mind, but exists apart from our existence, and we desire, if possible, to arrive at statements of facts which do not depend upon our personal existence to observe them.

2. VARIOUS METHODS OF REACHING A KNOWLEDGE OF FACTS OR EVENTS.

There are four principal ways in which the course of events in the external world can be ascertained more or less accurately. They are : (i) by repeated experiment ; (ii) by repeated observation ; (iii) by concurrent human testimony ; (iv) by inductive analysis and probability.

Consider the very large range of facts in the physical world, such as those included in the sciences of chemistry and physics. How, for instance, do we know the truth about the action of any acid, say, nitric acid, upon various metals ? The answer is solely by trying experiments.

We find then that copper, iron, zinc, etc., dissolve in the acid, but gold, platinum and iridium do not. If we had never seen a lump of sugar or a cup of tea we could not tell what would happen when the sugar is put into the tea by any deductive reasoning or argument. But we have all tried the experiment thousands of times and so we know the result.

Then in the next place we can only reach truth in some other regions by observation. If we desire to ascertain the truth about certain things connected with the sun, such, for instance, that it has a tenuous atmosphere called the Corona surrounding it, we can only reach it by observations made on the occasion of a total solar eclipse. We cannot experiment with the sun and moon, and the same for any other astronomical truth.

There are, however, regions of knowledge in which we cannot apply either repeated experiment or observation, but are compelled to rely on human testimony or observation, as to events that only happened once, by persons other than ourselves. In the case of living witnesses we are then compelled to analyse their statements or consistency with each other.

In courts of law there is a process called cross-examination, which consists in sifting the statements of witnesses by questions intended to ascertain the accuracy of the powers of observation of the witness, or the consistency of these statements with each other or with circumstances or other testimony. When skilfully applied it is a powerful means of ascertaining truth or the high probability of it.

In the case of a number of witnesses to past events it is found that the nature of their evidence will differ, because each will take notice more especially of certain things depending on his or her vocation, experience or character of mind. Considerable difference, however, in their testimony will not invalidate it. In fact, too close an agreement might indicate collusion between the witnesses.

In a large number of cases when we cannot assemble the witnesses and apply cross-examination we are compelled to rest on indirect or written evidence as to their accuracy as observers.

Nearly all our personal knowledge of, or assurance concerning, scientific matters is based on the evidence of experts who do not contradict each other, and concerning whom we have had experience as to their accuracy in matters we can personally verify.

It is, however, a familiar experience that we do not rely on a single experiment or a single observation or the testimony of a single witness to give us confidence that a statement as to the course of events is true or the course of events is in accordance with a statement. Our experiment must give the same results as often as repeated and the same for our observation. We attach little weight to the statements of a single witness. There must be a plurality of identical experiences in our experiment or observation and an identity in the evidence of many independent witnesses before we can feel confident we have reached the truth.

A single variation or departure from this identity serves to nullify the effect of a large number of coincidences or agreements.

3. DIFFICULTY IN ASCERTAINING TRUTH IN PAST OR ABNORMAL EVENTS.

The most difficult matters in which to ascertain truth are historical events in which the contemporary witnesses are all dead or cannot be brought together for cross-examination, and particularly when the event has only occurred once, and especially when it is abnormal or out of line with large experience. We may have then only written or printed documentary evidence which may not even be contemporary with the event in question. It may be a single case of an event quite contrary to our usual experience. This brings us to consider the validity of evidence for so-called miracles. Even when we have a number of witnesses who assert that they have seen a certain thing happen or event take place there is great difficulty in reaching certainty or truth.

We have only to call to mind the number of statements made as to observations of the sea-serpent, the Loch Ness Monster, or on the rope trick of Indian conjurers, and the associated suggestions of mass hypnotism or deception of some kind to see that a very careful and skilful examination of evidence is necessary before the statements of even a plurality of human witnesses can be considered as leading to a knowledge of the truth.

We are compelled then to rest very much on the evidence we have in other ways on the accuracy or competence of the witnesses to the events.

Of these non-repeated or non-repeatable events concerning which we desire to know the truth, the most important are those

historical events which form the foundation for religious beliefs, and especially for that called Christian.

Above all we seek to ascertain the actuality or truth of such events as seem to violate our general experience of the uniformity of natural phenomena. We have a very large and ever-accumulating experience that there is a constancy in the mode of happening of events in Nature, and that we can depend upon this constancy. If it were not so life would be impossible for us.

There is a very widespread opinion amongst the cultivators of knowledge of the physical universe that no variations of our present observed order of Nature or mode of happening of events as we now know them has ever taken place. Hence they reject as untrue any accounts of events called miraculous, not in line with our present experience of physical phenomena. It is important to bear in mind, however, that the uniformity in physical events is a thing to be explained and not taken for granted as essentially necessary.

There is a term Entropy which is used in a certain branch of science called thermodynamics to describe the fact that there is a spontaneous tendency in physical events towards disorder, and not order. For instance, atomic disorder of a certain kind tends always to increase and does not of itself tend to reproduce order. This may be illustrated by a simple example.

If we allow a heavy mass of matter to fall from a height under gravitation the particles or atoms of it whilst it is falling have all a component of motion in the same direction with the same speed. But when it strikes the ground this uniform motion is arrested and its energy is wholly converted into heat, which consists in an irregular motion of vibration of the atoms.

We cannot, however, gather up this heat and convert it all back into energy of mass motion. This is an illustration of two important laws called the First and Second Laws of Thermodynamics. The first states that we can convert the whole of the energy of a large moving mass such as a motor car or train into energy of irregular motion of atoms we call heat. The second states that we cannot convert back the whole of the energy of heat into mechanical energy of any kind.

The process is not entirely reversible, and the result of a transformation always is to diminish the amount of available or useful energy in the universe. As far as it can be reversed

it always requires the co-operation of intelligence. Hence we can conclude, I think, that the uniformity of phenomena in Nature is not self-produced, and we cannot argue that no deviations from it are possible. Hence the abnormal events we call miraculous are not to be ruled out *a priori*, but their occurrence is to be tested by the ordinary rules of evidence.

4. TRUTH IN BIBLICAL RECORDS AND NARRATIVES.

By far the most important of the non-repeatable events concerning which we desire to know the truth are those which concern the short earthly life, acts and words of Jesus of Nazareth which are described to us in the four short biographies we call the Gospels. Outside of these narratives we have little or no information except a few very brief references in secular literature.

Of these four, three are distinguished as the synoptic Gospels from their similar characteristics, but the fourth is agreed to be later in date, somewhat different in character from the other three.

There are then two different fundamental questions to which we require answers in accordance with truth. The first is whether the copies and translations we now possess of the writings called the Gospels and all those comprising the rest of the New Testament are in substantial agreement with any original documents nearly contemporary with the events they describe and the deeds of the Person round whom they centre ?

The second is whether these original documents, accurately or nearly accurately, described events which did actually happen and words which were spoken ? It is needless to say that any short convincing answers to these questions are impossible. Whole libraries of books have been written in reply to them.

Very shortly the assured results are as follows :—The original manuscripts of the Gospels and New Testament books generally are all lost or destroyed. They were in all probability written on the perishable material papyrus. Nevertheless, about two thousand existing MSS. have been catalogued, each comprising copies of portions small, large or nearly complete of these writings. The oldest of these known copies was written about the middle of the fourth century.

The Codex Vaticanus in the Vatican Library, Rome, is deemed to be the oldest of them, and the Codex Sinaiticus, now in the British Museum, is the next oldest. These are written on vellum or parchment in so-called uncial capitals, but without spacing between the words. These two contain the whole, or nearly the whole, of the New Testament. There are also an immense number of fragmentary MSS. The Syriac, Latin and Coptic-speaking peoples all had translations of the New Testament writings in the second century, and fragments at least of these versions are still extant.

All these MSS. differ in their text in a slight or even larger degree, and the task of textual criticism is to decide as nearly as possible the actual original words. "Roughly speaking," says Dr. Warfield in his "Introduction to the Textual Criticism of the New Testament," "there have been counted about 180,000 or 200,000 various readings, that is actual variations or differences in the existing documents, the results of errors in copying or other causes." But most of these are very slight and Dr. Hort, of Cambridge, one of our great experts in this subject, presents the results in the following way:—

He says that in about one word in every eight in the various New Testament manuscripts very small differences exist sufficient to bid us pause and note it. About one word in sixty has such various readings in different manuscripts as to make decision between them a little difficult, but most of these differences are so trivial that not one word in a thousand has such substantial variation to call forth the efforts of critics in deciding between the various readings as to the original or true reading.

Broadly and generally then the great mass of the New Testament has been transmitted to us down the centuries, say the experts, so accurately that we can be confident we have a truthful presentation now of the original manuscripts in substantially the form in which they left the hands of the original authors.

In addition to the partially complete or fragmentary manuscripts we have also such compendia of them as Tatian's "Diatessaron," a Gospel harmony of the second century, which bears witness to the existence at that date of written Gospels, practically identical with those we have now.

Hence we can assert, with a large degree of confidence in its truth, that the Gospels as we have them now are substantially identical with those in existence by or shortly after the beginning

of the second century, and some authorities consider much earlier. There does not appear to be any good evidence of an evolutionary development of these Gospels or gradual change. What they are now they were at the outset.

The second question to which we desire an answer is whether the statements in the original manuscripts were in accordance with fact and in short, truthful accounts of events which actually did take place, and words and discourses which were uttered as described. Here, however, we come up against the real difficulty in ascertaining the truth as far as it is a matter merely for the intellect alone.

For the Character and Person presented to us in these documents is absolutely unique. Never spake man as this Man, and no human being ever acted or achieved that which He is stated to have performed. His words had an appealing and persuasive power and authority, beauty and novelty absolutely without comparison with any others before or since. Then further, according to the accounts given of His actions: in His hands all the materials and energies of Nature were perfectly under control. Water became wine, bread and fish multiplied, chronic organic disease vanished, the dead were raised to life at His word, and storms were instantly stilled. In short, His words and works were supernatural in all respects. These things stand so completely outside of all other human experience that multitudes have declared or believed them not to be true, but the accounts given of them in the Gospel writings are deemed to be an embroidery of fiction added later on to the accounts of a merely normal but noble life. But all the original eye-witnesses have gone.

5. THE INDIRECT MODE OF REACHING TRUTH.

When we cannot obtain a direct proof of the truth of any statement or event, it is sometimes possible to reach a strong probability of truth by an indirect process which consists in proving that any other assumptions than those of the truth of the proposition or statement land us in absurdities or contradictions or greater improbabilities. Thus in geometry if we require to prove a certain proposition or theorem is true, we can often show that absurd consequences follow from assuming it is not true. We can apply this indirect method to the consideration of the truth of the supernatural events described in the

Gospels. Let us assume that they did not happen, and that the actual events were simply those of a normal, but very noble human life, and that the written accounts of it became embellished later on with fictitious narratives. If then the abnormal events we call miraculous did not happen someone must have invented the accounts of them, and put them into circulation, and obtained for them general acceptance as true. But was this possible ?

We know that there are certain so-called apocryphal Gospels containing accounts of miracles said to have been performed by Christ in His youth, but the character of them is totally different from those described in the accepted Gospels. These latter were always works of mercy done in infinite compassion for human sorrow and needs or else works of power "signs and wonders" as evidence of His deity and Messiahship.

There is nothing of this in the non-canonic narratives. These latter were puerile, useless or vindictive. Hence we have accounts of two different classes of abnormal events and the question is which of these, if either, is most likely to be true, or rather, can we say that one set are likely to be true and the other set likely to be false. We have a vaguely defined feeling that those least likely to have been the result of human invention are most likely to be true. We can then only in these cases place before our minds some statement and its contradiction or alternatives, and ask ourselves which of these is most probably true.

It is a common saying that truth is stranger than fiction, but with regard to some events it is certain that the event itself is more probable than its denial or substitutes. That is certainly the case with the greatest of all historical events, viz., the Resurrection of Christ from the dead. You are doubtless familiar with the alternatives which have been proposed to escape from an acceptance of the literal truth of the Gospel narratives.

There is the "myth theory" of David Strauss attributing the accounts to an eager acceptance of an hallucination on the part of an excited woman, Mary Magdalene, and its appropriation by uncritical disciples. But, tested by all human experience, it utterly fails to bear the weight of the facts or to account for the rise, experience and conquests of the infant Christian Church. Then there is the so-called "swoon theory," which implies that the Lord never really died upon the Cross.

This involves as a necessary consequence extensive and deliberate fraud by a number of persons, and is absolutely inconsistent with previous and subsequent ascertained history. The same is true for the false explanation put into the mouths of the Roman guard by the startled Sanhedrin. It carries in it its own contradiction. If the Roman sentries were asleep, how could they know it was His disciples that stole the Body ?

Anyone who, like the writer, has seen the type of large millstone used at that time to close burial vaults and the impossibility of one, or even a few men, moving it will realize at once the utter absurdity of the suggestion.

It is an accepted principle that every event must have a cause, and also a sufficient cause. No theory of deception or hallucination will account for the remarkable and immediate acceptance of a creed based absolutely upon the truth of the Resurrection by the thousands who accepted it within a few weeks of its occurrence, including a multitude of priests, except the fact that it did occur exactly and precisely as stated.

6. CRITERIA OF TRUTH.

On the other hand, it must be noticed that even a widespread, popular acceptance of any statement as true does not necessarily prove its truth, or else we should have to accept all non-Christian creeds, such as Mohammedanism, or Buddhism as truth equally with Christianity. Even a scientific theory such as Evolution widely advocated and held, is to be judged on its merits without regard to the number who embrace it.

Broadly speaking, in scientific matters of fact, we rely on capability of repetition of our experience as often as we please as one of our tests of truth of fact. In the case of human evidence we depend chiefly on plurality of congruent testimony.

Nevertheless, evidence must be weighed as well as counted, and we cannot always dismiss the testimony of a single or of very few witnesses, even to an abnormal occurrence as untrustworthy, provided we have proof in other ways of their accuracy of observation and statement. One source of error in scientific theorizing is failure to define sufficiently the meaning of words used, or the employment of terms which beg the question at issue. This is particularly the case in the case of the theory of the evolutionary origin of the human race. Words

are then used such as "man" and "acquired," or "adapted," without adequate definition and assumptions made as to the age of fragments of skeletons which are little more than vague guesswork.

We have not yet found sufficient material to construct any impregnable theory of the origin of the human race which is strong enough to invalidate the Scriptural statements of its origin in an act of Divine creation.

Furthermore, we have no right to dismiss as untrue a statement of fact because we are unable to visualize its nature or mode of happening. Thus, for instance, we can form from experience a clear idea of space of three dimensions, and by limitation of space of two dimensions. But not even a mathematician can visualize space of four dimensions, though he is able to conduct mathematical calculations on the assumptions that it can exist. Certain astronomical phenomena to which attention was drawn by Einstein's Theory of Relativity, have given strong indications that our space of three dimensions may have a curvature in a fourth dimension, and be limited in amount though unbounded by any margin. If so, there may be a multiplicity of spaces not identical, but separate and co-existent.

We cannot make either our power to visualize or our power to explain by mechanical explanations an essential quality or condition for a statement of truth.

7. IS A REVELATION OF TRUTH NECESSARY IN SOME MATTERS ?

This brings us, however, to consider in the last place whether in certain matters a revelation or Divine Communication of truth is not requisite.

It is a wide experience that we cannot give absolute and incontrovertible proof in matters of religion, such as the existence or goodness of God or the survival of the human personality after bodily death, as shall forcibly convince a sceptical enquirer, in the same manner that we can bring conviction on certain intellectual questions.

Yet they are questions on which certainty is of the utmost moment. Is there not then a probability to say the least that there has been some mode of communication of truth on those

things which lie beyond the unassisted power of the human intellect to fathom ?

As Bishop Butler suggests in his book, "The Analogy of Religion," the answer which countless numbers have given to this question is that this communication has been given to us in that Hebrew and Jewish literature we call the Bible.

We have unquestionable and continual proof being given to us now, that its history, archæology, and especially its prophecy of past events fulfilled, have been found to be true even in face of antecedent doubts or disbeliefs. The conclusion we can then draw is that it may be trusted to give us truth in those matters and questions yet beyond our powers of verification.

The point to notice is, however, that this proof never has such character as to dispense with a personal experiment and a voluntary action. The reason is that in all the emotional relations of rational and intelligent beings any degree of compulsion, physical or mental, vitiates that relationship entirely.

The character of the proof that is effective varies with the nature of the subject. No mathematician would admit that a mathematical proof could be obtained experimentally, and no chemist that a chemical one could be obtained otherwise than by an experiment. Hence in matters of religion which are personal and concern our relation to a Supreme Personality, the only valid proof can arise from a personal experiment. The truth may be suggested or buttressed by various arguments or lines of the thought, but in the last resource conviction of it must rest on a personal venture and act of free will.

There is a type of certainty which does not arise merely through ratiocination or intellectual argument, but through a willingness to carry out into practice the truth as far as it is known.

"If any man will do His will, he shall know of the doctrine, whether it be of God" (John vii, 17). The truths of religion are, in short, largely experimental truths. "In the day that I cried Thou answeredst me, and strengthenedst me with strength in my soul" (Ps. cxxxviii, 3). Truth or agreement between statement and fact is represented in Scripture as something indescribably precious, and its opposite or falsehood as essentially destructive. The importance of it is indicated by the occurrence of the word "truth" about one hundred times in the Old Testament and one hundred times in the New.

We are not encouraged to think that in matters spiritual we can ascertain absolute truth by our own unaided efforts, but, on the contrary, we must have it communicated to us, and that it is the special work of the Divine Spirit to make this communication.

“Howbeit when He, the Spirit of Truth, is come, He will guide you into all truth; for He shall not speak of Himself; but whatsoever He shall hear, that shall He speak; and He will show you things to come” (John xvi, 13).

There are countless voices in the modern world calling us to embrace error of various kinds in scientific, philosophic, economic, social, and religious matters, and it should be our earnest effort to ascertain concerning them, the truth, the whole truth, and nothing but the truth, to the very best of our ability, under present conditions and limitations of our minds.