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

EDITED BY THE HONORARY SECRETARY,
CAPT. F. W. H. PETRIE, F.R.S.L., &c.

VOL. XI.



LONDON:
(Published for the Institute)
HARDWICKE & BOGUE, 192, PICCADILLY, W.
1878.

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FOSSIL AGRICULTURAL IMPLEMENTS. A Note on
American Flint Hoes. By Principal DAWSON, LL.D.,
F.R.S.*

LITTLE attention seems to have been given by European Archæologists to the possibility of some of the ruder flint implements found in the river gravels having been agricultural tools, though I suggested this many years ago in a paper published in this country after a visit to the celebrated Amiens localities. My attention has recently been again directed to the subject in preparing a few popular papers † on the application of American antiquities to the explanation of European prehistoric remains.

The American Indians, before the European discovery, carried on the culture of maize, beans, and pumpkins from the Gulf of Mexico northward to the St. Lawrence, and the region of the great lakes. As they had no domesticated animals, their tillage of the ground was all done by manual labour, and their ordinary tool, according to the testimony of all the early voyagers and travellers, was that time-honoured implement, the hoe. In the absence of metal this had to be constructed of wood, shell, bone, or stone, or some combination of these. Among many tribes a curved stick, or a stick with a branch or prong, served the purpose. Others attached to the wooden handle a flat bivalve shell, the blade-bone of a deer, or a flat stone, sometimes provided with notches at the side.

The most artificially-constructed flint hoes known are those from the neighbourhood of St. Louis, described by Professor Rau in the Smithsonian Report for 1868, and by Mr. Jones, in his *Antiquities of the Southern States*. I had an opportunity of inspecting one of these recently, in the collection of the latter gentleman. It was slightly rounded in the front of the blade, and evidently polished by long use in the soil. Near the upper part were two deep notches to facilitate its firm attachment with thongs to the end of the handle.

* Read Feb. 5, 1877.

† In the *Leisure Hour*.

The more usual form of hoe found throughout the agricultural regions of America is an oval or ovate flat chipped flint, not very dissimilar from many of those of the so-called Amiens type, but usually somewhat thinner, and often of very large size. Foster, in his *Prehistoric Races of America*, describes several such implements from Illinois. Some of them are as much as thirteen inches in length, and may have been used as spades rather than as hoes. It is characteristic of these implements that they are found in large numbers together. Thus Abbott describes a cache of such tools, called by him hatchets, found in New Jersey, and containing one hundred and fifty. In the collection of the Brooklyn Historical Society is one of these implements, stated to be from a similar deposit. But, as might be expected, the greatest repositories of these tools are among the remains of the semi-civilized "Mound-builders" of the Ohio and Mississippi valleys, one of the oldest peoples of the American continent. Squier describes a deposit in Ohio in which as many as six hundred of these tools were found, while a vast number besides must have existed in it. These were under a mound supposed to have been of sacrificial character, and their discoverer seems at a loss to conjecture their use.

The same writer informs us that the "Flint ridge," which is one of the quarries from which the mound-builders obtained the material of these and other implements, "extends for many miles, and countless pits are to be observed throughout its entire length from which the stone was taken. These excavations are often ten or fourteen feet deep, and occupy acres in extent." Similar repositories of flints where very extensive manufactures have been carried on, in the Uintah hills in Wyoming, are described in one of Hayden's reports on the Western territories.

The occurrence of these roughly-shaped hoes in large deposits may be explained in several ways. Mr. Jones has pointed out to me a statement of Carver, that the makers of flint implements were in the habit of hiding away quantities of them until required for use, or for purposes of trade. Deposits of this kind would, however, consist of various kinds of weapons and implements, not usually of one kind alone. Again, in the case described by Squier, the accumulation may have been a great act of sacrifice. It was the practice of the mound-builders to offer public sacrifices, and the occasion (or some rule of their worship) caused that in some instances tobacco-pipes were offered, in others weapons, in others ornaments; and there seem to have been some of these rites in which agricultural tools were proper offerings, perhaps to

secure an abundant harvest, or to avert injuries from the crops. Another and probably more important reason was that the tillage was often done by large bands of men and women working together on grounds common to the tribe. When the work was finished, the tools prepared for it would be covered up in some place where they could remain safely till again required. In the same way, and for the same reason, the stone gouges used by the Indians in their sugar-camps in spring were hidden away in numbers till the returning season again brought the tribe to the sugar-grove.

These facts applied to the stone implements found in river gravels in Europe give some probability at least to the theory that they were agricultural hoes and picks. An agricultural population would cultivate the alluvial lands near the rivers. They would seek in the neighbouring flint-gravels for the material of their hoes. After use they would leave these in their fields or garden-beds in large numbers. Subsequent river-floods might mix the used and unused hoes with the rejected pieces in the re-arranged gravel-beds, and all this might take place without mixture of the other implements used by the people. It would thus appear possible that the valley of the Somme, for example, may have been the seat of a primitive agricultural people, whose residences may have been in fortified "pahs" or villages on the high grounds, while their fields lay along the stream. Where they resided, domestic implements, pottery, and weapons of polished stone or bone may be found.* Where they laboured the fields, only palæolithic implements may occur. There may also have been contemporary hunting populations in the hills who would not use any hoes, but only spears, arrow-heads, &c. Further, in any case such implements as hoes would be little likely to occur in caves or Swiss lake-habitations, while they might be very abundant in valleys and the beds of streams. Lastly, the case of the American mound-builders shows that a people may use palæolithic stone instruments in their agriculture, while they have in other respects attained sufficient civilization to possess polished and often elaborately-carved weapons, and ornaments of stone and metal, good pottery, and even textile fabrics. This, which was actually the case in America, may have also held good in prehistoric Europe.

In connection with this, it is interesting to reflect that the Scriptural history seems to imply the existence of a great agricultural population in antediluvian times in the valleys of certain rivers in Western Asia. If these people tilled the

* Genesis iv. 17, v. 29, vi. 1, vi. 21.

ground with rude stone implements before the extensive introduction of metals and before the domestication of the ox, they must have left vast numbers of palæolithic implements to be swept away by the waves of the deluge or buried in the river alluvia, and they must also have left behind extensive excavations and quantities of chipped stones in the localities where they quarried and manufactured their agricultural tools. All who attach a historical value to the Book of Genesis must be prepared for the discovery of such remains in beds far older than the oldest Assyrian monuments. We have perhaps a hint of the difficulties of the labour question in those days, in the saying attributed to Lamech on the birth of his son Noah, "This shall comfort us concerning our work and toil of our hands because of the ground which the Lord hath cursed." Whatever the reason of the hope expressed, the saying is the groan of a man oppressed by the hard labour of manual husbandry, carried on perhaps with implements no better than the flint hoes of the ancient Americans.

(I should have stated above that in the paper of Professor Rau on "Agricultural Flint Implements," he suggests that many of the rude implements found in deposits underground may be "roughly-edged fragments, destined to be made into spear or arrow-heads at a future time," and buried in order to preserve them in a moist and easily chipped condition. In any case this habit of the American aborigines of forming large deposits of roughly-chipped implements, is of great interest with reference to the so-called Palæolithic remains of Europe.)

A discussion ensued, in which the following took part:—Vice-Admiral E. G. Fishbourne, Rev. J. Fisher, D.D., Mr. T. K. Callard (who considered that—what were termed—the Abbeville and Amiens "flint implements," which he had seen, did not present indications of having been made by man), and the Honorary Secretary (who drew attention to Mr. Parker's report on the Somme Valley, *Transactions*, vol. viii. p. 51; and Dr. Dawson's present Remarks as to the "so-called Palæolithic remains in Europe").

The meeting was then adjourned.

ANNUAL GENERAL MEETING,
HELD AT THE HOUSE OF THE SOCIETY OF ARTS,
MONDAY, MAY 29, 1876.

THE RIGHT HONOURABLE THE EARL OF SHAFTESBURY, K.G.,
 PRESIDENT, IN THE CHAIR.

The HONORARY SECRETARY, Capt. F. PETRIE, read the following Report:—

TENTH ANNUAL REPORT of the Council of the
VICTORIA INSTITUTE, OR PHILOSOPHICAL SOCIETY OF
GREAT BRITAIN.

Progress of the Institute.

1. In presenting the TENTH ANNUAL REPORT, the Council desires to state that the progress of the Society, due in no small degree to the personal interest taken in its welfare by those who have become its supporters, has been such as to encourage the hope that it may speedily be adequately powerful to undertake all it was designed to accomplish; but that this hope may be realized, it is not the less necessary that those efforts which have placed it in its present position should not be relaxed. The average increase of Members and Associates during the past five years has been upwards of one hundred annually, and the actual number of additional names has slightly increased each year. Such progress has greatly contributed towards making the objects of the Society more widely known, and its work more telling.

* During the year, 1875, 115 Members and Associates have joined (12 being foreign, 64 country, and 33 resident in town).

2. The election of the Vice-Presidents and Council has been carried out in accordance with the proposition agreed to at the 1874 Annual Meeting, namely, by voting-lists being forwarded to the members. The following have been elected:

President.—The Right Honourable the EARL OF SHAFTESBURY, K.G.

Vice-Presidents.

The Right Honourable the EARL OF HARROWBY, K.G.

PHILIP HENRY GOSSE, Esq., F.R.S.

CHARLES BROOKE, Esq., M.A., F.R.S., P.R.M.S., &c.

Rev. ROBINSON THORNTON, D.D. C. B. RADCLIFFE, Esq., M.D., &c.

W. FORSYTH, Esq., Q.C., LL.D., M.P. Rev. Principal T. P. BOULTBEE, LL.D.

Hon. Treasurer.—WILLIAM NOWELL WEST, Esq.

Hon. Sec. and Editor of Journal.—Capt. F. W. H. PETRIE, F.G.S., F.R.S.L., &c.

Council.

ROBERT BAXTER, Esq. (*Trustee*).

Rev. A. DE LA MARE, M.A.

REAR-ADMIRAL E.G. FISHBOURNE, R.N.,
C.B.

R. N. FOWLER, Esq. (*Trustee*).

WILLIAM H. INCE, Esq., F.L.S.,
F.R.M.S.

ALEX. M'ARTHUR, Esq., M.P.

EDWARD J. MORSEHEAD, Esq., H.M.C.S.

(*Hon. Foreign Sec.*).

ALFRED V. NEWTON, Esq.

WILLIAM M. ORD, Esq., M.D.

S. D. WADDY, Esq., Q.C., M.P.

WILLIAM VANNER, Esq., F.R.M.S.

ALFRED J. WOODHOUSE, Esq., F.R.M.S.

Rev. J. H. RIGG, D.D.

Rev. Prebendary ROW, M.A.

Rev. Canon TITCOMB, M.A.

J. A. FRASER, Esq., M.D., I.G.H.

Rev. CHARLES GRAHAM.

T. W. MASTERMAN, Esq.

H. CADMAN JONES, Esq., Barrister-at-
Law.

Rev. J. G. WOOD, M.A., F.L.S., &c.

Rev. W. ARTHUR, D.D.

C. R. BREE, Esq., M.D., F.Z.S.

JOHN ELIOT HOWARD, Esq., F.R.S.

Rev. G. W. WELDON, M.A., M.B.

Rev. Principal J. ANGUS, M.A., D.D.

J. BATEMAN, Esq., F.R.S., F.L.S.

The MASTER of the CHARTERHOUSE.

3. The library has received several valuable additions through the generosity of members.

4. The Council regrets to announce the decease of the following valued supporters of the Institute:—

The Rev. Prebendary E. B. Elliott (Member); T. Ensor, Esq. (Foundation Associate); the Rev. G. Lawless, M.A. (Associate); the Ven. Archdeacon Long, M.A. (Member); P. McFarlane, Esq. (Foundation Life Member); W. Foster Newton, Esq. (Member); S. H. Smith, Esq. (Associate); the Ven. Archdeacon Stanton, M.A. (Member); the Rev. J. Williams, M.A. (Foundation Associate).

5. The following is a statement of the changes which have occurred during the past twelve months :—

	Life		Annual	
	Members.	Associates.	Members.	Associates.
Numbers on 1st June, 1875	29	13	294	248
Deduct deaths ...	1	—	4	4
	<u>28</u>		<u>290</u>	<u>244</u>
Withdrawn	—	—	9	14
			<u>281</u>	<u>230</u>
Joined between June 1st, 1875, and May 1st, 1876	2	1	46	67
	<u>30</u>	<u>14</u>	<u>327</u>	<u>297</u>
	44		624	
Total				668*

Hon. Foreign Correspondents and Local Secretaries, 13.

Finance.

6. The Audited Balance Sheet of the Treasurer for the year ending 31st December, 1875, is appended, showing a balance due to the Treasurer of £14.† It will be observed that the Balance Sheet is no longer divided under two heads ("General Account," and "Special Fund for Library," &c.). The total amount now invested in the New Three per Cent. Annuities is £666. 0s. 1d.

7. The arrears of subscription are now as follows :—

	1872.	1873.	1874.	1875.
Members	1	3	3	6
Associates.....	1	1	3	11
	<u>2</u>	<u>4</u>	<u>6</u>	<u>17</u>

8. The estimated ordinary assets of the Institute for the

* Joined during May, 3 Members and 6 Associates; total, 677, and 13 = 690. The total number on the 1st of January, 1871, was 201.

† It should be noted that the sum of £71. 11s. was due to the Society from various Members and Associates on account of unpaid subscriptions for the year 1875; all but £23. 4s. of this has since been paid. (See sect. 7.)

current year, exclusive of arrears and of new subscribers, are as follows:—

Annual Subscribers.	£.	s.
327 Members, at £2. 2s.	686	14
297 Associates, at £1. 1s.	311	17
Vice-Patrons, Life Members, and Life Associates.		
(Dividend on £666. 0s. 1d. Three per Cent. Stock) ..	18	11
Total.....	£1017	2

Meetings.

9. The following is a list of the papers for the present session, viz.:—

“On Present Day Materialism.” Rev. J. McDUGALL. December 6, 1875.

“On Scepticism.” By the Rev. ROBINSON THORNTON, D.D., V.P.; being the Fourth and concluding portion of the Arguments brought forward in the Author’s Papers on “The Logic of Scepticism,” “The Credulity of Scepticism,” “The Varying Tactics of Scepticism,” read in 1866, 1869, and 1874. The present Paper will be entitled “The Sorrows of Scepticism.” January 3, 1876.

An Examination of a work entitled “The Unseen Universe, or Physical Speculations on a Future State”; its Scientific Conclusions and Theological Inferences. By Rev. Prebendary W. J. IRONS, D.D. January 17.

“On Heathen Cosmogonies compared with the Hebrew.” By Rev. B. W. SAVILE. February 7.

“On Traces of early Phœnician, Jewish, and Carthaginian Intercourse with the British Isles.” By F. A. ALLEN, Esq. February 21.

“The Horus Myth.” By W. R. COOPER, Esq., Sec. Soc. of Biblical Archæology. March 6.

On “A Critical Examination of the Flint Knives from Brixham Cavern.” By N. WHITLEY, Esq., C.E. (With Photographic Illustrations.) March 20.

“Egypt and the Bible.” By J. E. HOWARD, Esq., F.R.S. April 3.

“The Place of Science in Education.” By Professor A. ALLEYNE NICHOLSON, M.D. (St. Andrew’s University). April 10.

“The Metaphysics of Scripture.” By Professor CHALLIS, F.R.S., F.R.A.S. (Cambridge). May 1.

Anniversary Address. By Professor BIRKS, Cambridge. (*At the Society of Arts’ House, John Street, Adelphi.*) May 29.

On “The Theory of Unconscious Intelligence as opposed to Theism.” By Professor MORRIS, M.D., Michigan University. (*At the Society of Arts’ House, John Street, Adelphi.*) June 19.

Extra Meeting) Special Discussion on Rev. Prebendary IRONS’ Paper, read January 17th as above. July 3.

10. The meetings during this session have been as well attended as usual, the Anniversary, and the meeting of the 19th of June being held at the House of the Society of Arts, the rooms of the Institute not affording adequate accommodation.

Publications.

11. The Ninth Volume of the *Journal of Transactions* has been issued, and the several quarterly parts for the current year will appear in due course.

12. In the publication of the *Transactions* the Council has continued the practice of printing in full the papers read, and the discussions thereon, so that country and foreign members, although unable to be present at the meetings, may enjoy, as far as possible, the same advantages as those attending them; and in many instances communications in regard to important points not taken up at the meetings have been sent in by country members. These, being added to the *Journal*, have enhanced its value.

13. Lectures (in furtherance of Object V.) have been given in England and Ireland by some of the members, the papers in the *Journal* being the basis of such lectures. One member in a North of England town (noted for the prevalence of scepticism therein) has been giving lectures for some time past, once, and sometimes twice, a week, to audiences of from 1,500 to 2,000. This member reports that he has found in the *Journal* exactly that which he needed for his work, and which he had looked for in vain elsewhere.—The Institute is also indebted to him for a considerable addition to its Library.—In Italy the papers in the *Journal* are translated and published.—In India, the *Journal* has been found valuable in work among the Brahmins.*—In America, the *Transactions* are becoming popular; and the impartiality of the mode of carrying out the investigations has attracted attention.

14. The Hon. Local Secretaries have been added to, and their work is being supplemented by, the efforts of other members, and by two supporters of the Institute now making

* The late Sir Donald McLeod urged strongly the need of extending the Institute's sphere of action to India, &c. See *Speech at Annual Meeting* vol. vii. p. 180.

a tour in some of the Colonies. Such efforts not only promote the first objects of the Society, and increase its powers of action, but also tend to make the Society, its design, and its publications, more widely known.

15. "The People's Edition."—The vast amount of unsound, and in many cases avowedly infidel, cheap literature on philosophical and scientific subjects, now in circulation, especially in the larger towns of the United Kingdom, induced the Council in 1874 to begin the issue in a cheap form of single copies of some of the papers in the *Journal*; since then six papers have been issued in this form, entitled "The People's Edition." The plan has been carried out, by deciding beforehand upon the paper to be so issued, and, when it was printed for the *Journal*, striking off extra copies upon common paper. For the sale to the public of the "People's Edition" (and of the *Journal* generally) a scheme of bookseller-agents in fifteen leading towns of the United Kingdom, having been matured, has been in full operation since August last: the results have in some cases exceeded anticipation. Nearly half the Institute's accumulated stock of single papers has been issued to these Agents, some of whom have begun to include our publications in their own circulated list of books. Although the profits have been small, by reason of the low scale of prices necessarily adopted for the "People's Edition" when starting the scheme, yet the importance of the step taken will be apparent. Altogether about 20,000 copies of the papers which appear in the *Journal of the Transactions* were published in a separate form during 1875, and the demand for them appears to be increasing.

16. From time to time the Institute receives requests from clergymen, missionaries, Scripture-readers, &c., for grants of the single papers, for circulation amongst certain classes of the population (working-men in manufacturing, mining, and other districts—especially those districts in which lecturers or literature advocating views tending to scepticism are common). The smallness of the "People's Edition" Fund (founded by a non-member) has not allowed of more than a few such requests being complied with; but should this fund receive further support,* the Institute will be better able to meet any urgent application of the kind.

* The donation of £50 from Mr. J. E. Howard, F.R.S., to this fund was, according to stipulation, expended in issuing a large edition of his paper on Professor Tyndall's Belfast address.

Conclusion.

17. The good understanding existing between this and other scientific societies continues to increase, and with many of the leading ones at home and abroad, the Institute exchanges Transactions.

18. Finally, the future of the VICTORIA INSTITUTE rests in no small degree with its present supporters; it is most important that it be maintained in a state of thorough efficiency, and the present Members and Associates may greatly contribute thereto by introducing new supporters; more especially such as may take a leading part in carrying out its objects.

19. The Council cannot but feel thankful for the success which has attended the Society's exertions, and the place it occupies in the estimation of those best qualified to judge of its value.

Signed on behalf of the Council,

SHAFTESBURY, *President.*

**DONATIONS TO THE ENDOWMENT FUND
DURING 1875.**

	£.	s.	d.
Miss CURTEIS	1	1	0
(<i>Funded.</i>)			

**DONATIONS TO THE LIBRARY FUND
DURING 1875.**

	£.	s.	d.
A. WOODHOUSE, Esq.	3	0	0
Miss CURTEIS	1	1	0

**DONATIONS TO THE "PEOPLE'S EDITION" FUND
DURING 1875.**

	£.	s.	d.
J. E. HOWARD, Esq., F.R.S. (for a Special Paper).....	50	0	0
G. HARRIS, Esq.	10	0	0
I. BRAITHWAITE, Esq.	5	5	0
F. BISSET HAWKINS, Esq., M.D., F.R.S.....	5	0	0
Rev. J. RATE	2	0	0
J. H. WHEATLEY, Esq., Ph.D.	2	0	0
A. WOODHOUSE, Esq.....	2	0	0
Rev. Preb. BROOKS.....	1	1	0
Miss CURTEIS	1	1	0
Admiral NOLLOTH, R.N.	1	1	0
	<u>£79</u>	<u>8</u>	<u>0</u>

(*Now used up.*)

The following balance sheet was then read :—

TENTH ANNUAL BALANCE SHEET, *from 1st January to 31st December, 1875.*

RECEIPTS.				£.	s.	d.
Balance from 1874, brought forward ...	...	...	...	35	10	3
Subscriptions:—						
3 Life Members ...	...	...	63	0	0	
1 Member for 1873 ...	...	...	2	2	0	
11 " 1874 ...	...	...	23	2	0	
271 " 1875 ...	...	...	569	2	0	
4 " 1876 ...	...	...	8	8	0	
39 Entrance-fees ...	...	...	40	19	0	
2 Life Associates ...	...	...	21	0	0	
1 Associate, 1873 ...	...	...	1	1	0	
10 Associates, 1874 ...	...	...	10	10	0	
234 " 1875 ...	...	...	245	14	0	
8 " 1876 ...	...	...	8	8	0	
1 " 1877 to 1880 ...	...	...	4	4	0	
			<hr/>			997 10 0
Six months' Dividend on £581 17 0						
New 3 per cent. Annuities			8	13	1	
Six months' Dividend on £666 0 1						
New 3 per cent. Annuities			9	18	2	
			<hr/>			18 11 3
Received for use of Room ...	...	...	1	1	0	
Donations to Library Fund ...	...	...	4	1	0	
" Special Fund (£50 for a special Paper)			79	8	0	
Endowment Fund ...	...	...	1	1	0	
Sale of Journals, &c. ...	...	...	60	6	6	
Balance, Dr. ...	...	...	14	0	0	
			<hr/>			£1,211 9 0

EXPENDITURE.						£.	s.	d.	
Printing ...	...	...	...	...	...	396	5	0	
Binding ...	...	...	...	...	...	16	17	5	
Reporting ...	...	...	...	...	...	28	17	6	
Stationery ...	...	...	...	...	...	42	10	6	
Postage ...	...	...	...	...	...	89	18	0	
Advertising ...	...	...	...	...	...	88	7	2	
Expenses of Meetings ...	...	...	...	...	...	22	14	6	
Rent to Christmas, 1875	...	...	...	...	...	157	10	0	
Salaries for Year, Clerk	39	5	0	}	47	19	6
" Extra Clerk	...	...	8	14	6				
Rent for Clerk	13	0	0	
Housekeeper	20	9	8	
Travelling Expenses	13	19	7	
Coals	3	1	6	
Gas and Oil	4	12	0	
Insurance	0	12	0	
Sundry Office Expenses	8	7	8	
To Expenses of Hon. Secretary	100	0	0	
Bankers' Charges	0	11	1	
Investments £118. 4s. 2d. New 3 per cent. Annuities	111	15	0	
Library, Books, Bookcase, Repairs, &c.	26	5	6	
Cost of Removing Institute, &c.	17	15	5	
			<hr/>			44	0	11	
			<hr/>			£1,211	9	0	

We have examined the Balance Sheet with the books and vouchers, and find a Balance due to the Treasurer of £14.

G. C. HARRISON, }
 JOHN ALLEN, } *Auditors.*

W. N. WEST, *Treasurer.*

Mr. J. E. HOWARD, F.R.S.—I will confine myself to the simple duty of moving, “That the report of the council, now read, be received, adopted and circulated among the members and associates.”

Admiral NOLLOTH, R.N.—I have great pleasure in seconding this resolution.

The resolution was then put and carried unanimously.

The Right Rev. Bishop RYAN, D.D.—I have to move, “That the thanks of the members and associates be presented to the council and honorary officers for their efficient conduct of the business of the Victoria Institute during the past year.” I have great pleasure in moving this resolution, because of the very great importance of the work of the Institute, and also because of the efficient manner in which that work has been carried on. I think that only those who have laboured, as I have, in the large towns of the north of England, can have any idea of the great importance of the work that is being done by this Institute. The most infidel sentiments are very largely circulated among the working people there, in publications that are printed and diffused widely throughout these districts; and, in addition to that, lecturers are continually coming to our great northern towns, endeavouring to subvert the principles of religion, and even the belief in an intelligent Creator. It may very naturally be asked, “Why do not the clergy meet them?” The truth is, that the clergy have not the time to do so, having to attend to the sick as well as to all their other duties in parishes, the population of which may often be numbered by tens of thousands. I have 30,000 people attached to one church, and although I have six curates acting with me, we have not time for performing all our duties, or for visiting the people with the view of bringing the truths of religion to bear upon them. At the close of one Sunday service a short time ago, a young man, himself once an infidel, came and asked me if I could tell him any way in which he could procure some of our publications, and he would distribute them on Sunday nights to those who were going to hear the infidel lecturers. This is one instance of the value of such a society as ours, and I am glad we have such publications as it affords, because, and I am sure our noble chairman will agree with me, it is better not to answer infidels at all than to answer them in an imperfect way. I did not hear from the honorary secretary, in the account he gave us of the proceedings of the past year, of the almost gratuitous way in which the services we are acknowledging in this resolution have been performed; the fact being, I believe, that the item of salaries has only cost the Institute about £38 per annum. (Hear, hear). For this small outlay a great deal of honorary service is done, and you will doubtless agree with me that we should not overlook this fact. (Cheers).

Mr. M. J. STEWART, M.P.—The best test of the good done by this society is to be found in the statement which our honorary secretary has just read to us. The results have, as we must all acknowledge, been extremely satisfactory; especially when we notice the fact that the increase in the number of our members during the past year has been no less than 115. The

expenses have, at the same time, been so diminished that they have been reduced to the lowest possible point. For instance, the item of salaries has averaged about £38 per annum during the past five years, while the operations of the society have been so extended, as not only to reach those cases that have been alluded to as occurring in the busy manufacturing and mining parts of the country, but they have also stretched as far as America and our Colonies. (Hear, hear.) But beyond this, we have during the past year had printed and published a people's edition of certain treatises which have been put forth here. (Hear, hear.) All this points to one fact, namely, the earnestness and zeal which has been displayed by the honorary officers, which together with their genial manner and tact, redounds greatly to their credit. I think the best thanks of the society are due to them. (Applause.) We all know that a machine, however well put together, and however skilful the workmanship that has been employed upon it, unless it be well handled and ably managed, will not do much good work. We look forward to the time, and we trust that it will not be far distant, when the operations of this society will be even more largely diffused throughout the world, and especially in this country. It cannot have escaped the attention even of the most thoughtless of our statesmen, or of those who are not necessarily associated with politics, that immense importance attaches at the present moment, perhaps far more than at any other time, to the putting into the hands of our people good, and pure, and sound reading. (Hear, hear.) Not only has this fact been acknowledged by other societies that have been successful in disseminating the best works of the best authors, but this society has adopted a somewhat higher and more elevated point of view, and endeavours to instruct those sceptics, those rationalists and those materialists, of whom, alas, so many are found in this country, in the more abstruse and difficult points connected with Bible teaching; and, as was truthfully and practically remarked by the last speaker, unless we are able to direct the minds of these classes into the very best channel, and to explain the real meaning of the more difficult questions and points of philosophy and science, especially those bearing upon the great truths revealed in Holy Scripture, we had better not attempt to meddle with those points at all. (Hear, hear.) A new and very practical object of this Society may be found in "the people's edition" of some of the more popular papers which they have thought fit to publish this year. It is stated in the report, that with increased funds this useful department of the Institute's operations might be very greatly extended, and I trust that the friends of this Institute will bear in mind, that with a view to placing "the people's edition" within the reach of the people generally, it is sold at a nominal profit. It is a remarkable fact that the earnestness of inquiry into scientific truth, exhibited by members of this society, extends not only among those who are philosophers and men of large education in connection with our universities and our great centres of learning, but a similar zeal is to be found among a lower stratum in this country. We have many skilful artizans and miners and persons

engaged in our factories, who are most eager and anxious to grasp the difficulties that beset them on scientific and Biblical subjects—persons whom you would have supposed to have been the very last to read such treatises as those of the late Mr. John Stuart Mill ; but these are the very persons who are found bringing their acumen to bear on those abstruse questions which the more generally educated classes pass over, and it is to such minds as these that we are also directing our efforts, in the endeavour to show them the truth and the purity of the Scriptures and revealed religion. (Hear hear.) And not only is such the case in this country, but only a very short time ago I heard discussed at a very large meeting, the question, how came it that, at this moment, in India, people not only ranking among the native princes and others who have recently been entertaining the Prince of Wales so magnificently, but persons holding a much lower position in the social scale, are striving to work out those difficulties and problems. Now a society such as this, which has already commenced operations in India, may be extended so as to do great and lasting good there. (Applause.) I do not propose to trespass longer on the time of the meeting, and I will only add that I have come hastily, like the right hon. gentleman near me (Mr. S. Cave, M.P.) from the House of Commons, in order to show my sympathy with the work in which the society is engaged, rather than to add anything new in the way of information to the knowledge you already possess. I thank you for having so kindly listened to me, and beg to second the resolution. (Applause.)

The Right Hon. S. CAVE, M.P.—I have to apologise for having been detained in the House of Commons rather longer than I expected. I ought to have seconded the first resolution ; perhaps, however, I may be allowed to speak to the one just moved and seconded (cheers), though probably very little remains for me to say after what has been already stated. Unfortunately, I have only heard my honourable friend who spoke last, and I am sure I most cordially agree with every word he has said. Our best thanks, no doubt, are due to all who have taken part in the operations of this society, not only for the energy and zeal they have displayed, but also for the tact and discretion with which they have acted ; because, if ever there was a work which more than another required not only energy and zeal, but also the soundest judgment and discretion, it is such a work as that in which we are engaged. We must remember that our motto is “Defence, not defiance,” and we must recollect that we are dealing with difficult problems which are exercising intellects of very different kinds. There are those sceptics, whom I may call political sceptics, such as those who arose during the first French Revolution ; who hated religion, as the badges of the party they opposed, and who sought to upset old forms of faith as well as the existing political and social status. There are also sceptics who are so from mere pride of intellect, men who fancy that there can be nothing which they do not understand, and exalt the goddess of reason above all other powers. And there are sceptics of another kind, those who are

sincere doubters, who are struggling towards a proof of that to which their honest minds refuse to give a blind assent, and to which their intellects do not permit them to agree. Among people of this class are those of whom we must expect to meet more and more in the present transitional state of things. We are beginning to educate the people, and there is nothing, as we know proverbially, so dangerous as "a little knowledge." The masses of this country are in that position in which they may be said to have a little knowledge; therefore, it is to be expected that doubts of all kinds, on religious, as on other topics, will creep in amongst them. They will, to a certain extent, possess and display that pride of intellect to which I have referred, and which refuses to believe things that do not commend themselves to their understanding, and at the same time they will have that difficulty in appreciating the truth which is always found amongst those who have "a little knowledge." But we must look these things in the face, and do the best we can to alter them; and we must do this by employing sound and appreciable argument. (Hear, hear.) You cannot tell people to receive things without question as a matter of faith, any more than you can persuade your children to sit still and ask no questions. I recollect that when I was a boy, and asked a difficult question, I was sometimes told it was not my business to ask; but I am afraid that this was an indication rather of the inability of the person so as asked to answer the question, than of my being wrong in asking it. In dealing with those whose opinions we desire to modify or influence, we must be careful not to impute motives, we must simply state facts. We may, no doubt, show, as we have endeavoured to show, the inconsistencies of those who start forward in their pride of intellect, and proclaim that those old stories which we have believed from our childhood are not true. Some one once said, I think, of Voltaire, "Oh, infidel, great is thy faith!" and if we can show that the sceptics with whom we have to cope, are prone to fall into inconsistencies greater than those they sneer at in us who believe, we shall, in my humble judgment, be doing good work. (Hear, hear.) Lepsius, the scientific traveller who explored the East, refused to believe the miraculous character of the journey of the children of Israel from Egypt to Canaan. He said that Moses was a great general, who conducted his people from one district to another, and had good reasons for every movement that he made. He entirely refused to believe that the children of Israel were fed with manna by a miracle. Manna, he said, was simply a distillation from the tamarisk bush—a distillation which I myself have frequently tasted—and that Moses took one route rather than another because tamarisks were more abundant. Now, surely the idea that two millions of people, or more, were fed for so many years by the exudations of the tamarisk, which only drop at one season, and the whole supply of which, throughout the whole district, would not have afforded them one meal, required a greater capacity for belief, than the whole history which the Book of Exodus has put before us. Well,

what we have to do is simply to state the case fairly, to adduce arguments in favour of facts that are thus disputed, and to bring people's minds to bear upon them in such a way that they may be convinced of their truth, and if so convinced, their convictions will be far stronger than those of people who are from the first ready to take everything on trust. There is one thing that we should be most careful about in conducting our arguments. Very often people arguing on these subjects do mischief by suggesting fresh doubts, while endeavouring to clear up others, and although, no doubt, those who have strong well-regulated minds may experience no difficulty in passing successively on from one stage to another—and there are, and have been, many philosophers who, in our own day, and in days that are past, began as sceptics, and by convincing themselves at each step that they had still farther to go, have ultimately risen from a youth of scepticism to an old age of belief, yet who can tell how many sceptics there have been who have died in their unbelief? There is nothing so dangerous as to sow doubts without knowing upon whose minds the seed may fall. We know that many a great author has, in his latter days, looked back with remorse when impressed with the idea that the tendency of his earlier writings has been to do much mischief; and I am afraid that many of those who have suggested doubts, for the mere purpose perhaps of getting up an argument, or from curiosity to hear what may be said on the other side, and then have passed on and thought no more about it, may have done the same sort of mischief. (Hear, hear.) It is no excuse to say, "I was then imperfectly informed, now I know better." He ought to recollect in time, how very limited are our own intellects, and that things may soon appear quite clear which we formerly doubted, whilst on the other hand we may wonder at our believing others which appeared very clear to us a short time before. What can be more extraordinary or impossible of belief than many of those truths of natural history which are now known and believed by every man, woman, and child, who has received any education on the subject, but which scarcely any one in the last generation would have given credence to? I think that one of the first points we ought to consider and inculcate is, how very humble the limited intellect of man ought to make him. (Hear, hear.) It seems to me that true humility is not more the attribute of an unquestioning childlike faith, than it is of the highest genius, and that the higher the genius, and the more profound the knowledge, the more humble is the mind and intellect of the truly wise man. (Hear, hear.) But, at the same time, we must recollect in all these arguments, that different minds are differently affected. We all know the old story of Charles V, who tried to make all the clocks in his palace go alike, and who, on finding that he could not succeed, said, "How very foolish I must have been in trying to get all men to believe my own creed." We ought, therefore, to be very tender in dealing even with those who put forward the most extraordinary notions or ideas that are most repugnant to our own. We must remember that

we are in a transition state, and that none of us can say what it is that science may not yet discover. If a discovery be only a step to something else in the direction of the truth, we may be misled by it. Many a path may lead apparently in an opposite direction to that which we expected, and yet lead us right in the end. So, if a discovery be a truth, we may be sure, that whatever appearances may be, it will not be inconsistent with revelation. (Hear, hear.) There are few lines that express this truth better than those of Miss Ingelow, who has suggested many thoughts that will be appreciated by a society like this. She says :—

“Wait, nor against the half-learned lesson fret,
Nor chide at old belief as if it erred,
Because thou canst not reconcile as yet
The Worker and the Word.”

This reconciliation must take place sooner or later—it may be later, or it may be sooner. Events follow each other rapidly in the progress of this world in which we find ourselves, and if we can by our efforts influence only some very few of those to whom I have made allusion, and induce them to take different views of these important matters, and to change a restless unsatisfying scepticism, for the calm consent of undoubting faith, we shall have done some good, not only in this world but also with reference to the next. (Cheers.)

The resolution was then carried unanimously.

The Earl of SHAFTESBURY, K.G.—As President of this Institute, I have now a very agreeable duty to perform, which is to present the testimonial before you to Captain F. Petrie, who has devoted more than five years of his time to the work of this society (during which period it has risen from 200 to 694 members), and whose patience, affability, zeal, tact, and assiduity have done so much to bring it up to its present position. I am sure those who belong to the Society will heartily endorse what I have said, and what is here inscribed (on a salver, which, together with a silver tea and coffee service, formed the testimonial) :—

“Presented, with a Purse of 100 Sovereigns, to Captain Francis W. H. Petrie (late 11th Regiment), by the President and Council of the Victoria Institute, or Philosophical Society of Great Britain, in testimony of their high esteem, and in recognition of the very energetic and valuable services he has rendered as honorary Secretary to the Society.”

Captain F. PETRIE, Hon. Secretary.—It would indeed require a far more eloquent tongue than mine adequately to express the thanks which I feel are due, for the great honour which has been done to me in the presentation of this generous gift from the Institute, and more especially as the presentation is now carried out by your Lordship, with whose high name it will ever be associated ; and when I shall leave the work I am now engaged in and take up once more an appointment under the Crown, which, for private reasons

I have of late sought, I shall look upon this kind gift as a memorial of many happy years, spent in the best of labours, and under the direction and superintendence of a council remarkable for its unity and its generous and kindly feeling to all—certainly to me on every occasion ; in fact, I feel that your Lordship and the council have always been too kind, too indulgent to my many faults. I have never had to trespass on your Lordship but I have afterwards felt that I could not have asked more than has been accorded to me : and with the council it has been the same—ever kind in expressing their desires, and ready to help with the results of their mature knowledge. Therefore I feel that I cannot fully express how fortunate I have been. May I add, that one and not the least of my pleasures in receiving this gift will be the placing it in the hands of her who has cheered and encouraged me in many a difficulty. (Cheers.)

The Rev. Professor BIRKS then read the following address :—

THE ANNUAL ADDRESS.

THE UNCERTAINTIES OF MODERN PHYSICAL SCIENCE.

MY LORD SHAFTESBURY, LADIES AND GENTLEMEN.

The word Science, now so much in vogue, occurs once only in our English version of the New Testament. It is where St. Paul counsels Timothy to avoid “profane and vain babblings and oppositions of science falsely so called; which some professing, have erred concerning the faith.”

Those Gnostic heresies and speculations, to which the warning first applied, are extinct long ago. Nothing is left of them but some fossil skeletons in the works of the Fathers. But oppositions of pretended science to the Christian faith have revived in other forms, and exist at the present day. In the name of scientific progress, faith in God, in a life to come, and in supernatural revelation, has been vigorously assailed. The chief leaders in this philosophical sect may be called Agnostics, and their creed Agnosticism. They affirm that of a Creator, a First Cause, a Supreme Governor of the universe, nothing whatever can be known. But by way of compensation they claim that their own advance in natural knowledge is “all but infinite,” compared with their predecessors. From this lofty