

PROCEEDINGS
OF THE
ASIATIC SOCIETY OF BENGAL.

EDITED BY

THE HONORARY SECRETARY,



JANUARY TO DECEMBER,
1899.



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PROCEEDINGS

ASIAN SOCIETY OF LINGUISTICS

THE UNIVERSITY OF TORONTO

ANNUAL MEETING

1963

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1963

ASIAN SOCIETY OF LINGUISTICS

THE UNIVERSITY OF TORONTO

ASIAN SOCIETY OF LINGUISTICS

1963

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CHAPTER 1

The first chapter of the book is devoted to the study of the foundations of the theory of functions. It begins with a discussion of the real numbers and the real line, and then proceeds to the study of the properties of the real numbers. The chapter concludes with a discussion of the completeness of the real numbers.

The second chapter is devoted to the study of the properties of the real numbers. It begins with a discussion of the properties of the real numbers, and then proceeds to the study of the properties of the real numbers. The chapter concludes with a discussion of the properties of the real numbers.

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PROCEEDINGS
OF THE
ASIATIC SOCIETY OF BENGAL.

FOR JANUARY, 1899.

The Monthly General Meeting of the Asiatic Society of Bengal was held, on Wednesday, the 4th January, 1899, at 9 P.M.

A. PEDLER, Esq., F.R.S., Vice-President, in the Chair.

The following members were present:—

Captain A. R. S. Anderson, I.M.S., Mr. J. Bathgate, Dr. T. Bloch, Babu M. N. Chatterjee, Mr. W. K. Dods, Mr. F. Finn, Captain W. Haig, Mr. W. A. Lee, Mr. L. de Nicéville, Mr. J. D. Nimmo, Mr. C. Saunders, Mr. M. J. Seth, Mr. E. Thornton, Major L. A. Waddell, I.M.S., The Revd. J. Watt.

Visitors:—Major S. Burrard, Mr. W. F. Reynolds.

The minutes of the last meeting were read and confirmed.

Eighteen presentations were announced.

Nawab Ali Hussain Khan, Director of Public Instruction, Bhopal State; Lieutenant M. Ll. Ferrar, 12th Kelat-i-Ghilzai Regiment; Dr. Frank Gerard Clemow, M.D. Edin., D. P. H. Camb., were balloted for and elected Ordinary Members.

A vacancy having occurred owing to the death of Dr. G. Bühler, the Council recommended Dr. A. F. R. Hoernle, C.I.E., for election as Honorary Member at the next meeting.

It would be superfluous to recount to the members of the Society which Dr. Hoernle has so long and so eminently adorned the services

which he has rendered to the Science of Philology, were it not desirable, in the interests of that Society itself to place on record the history of the connexion which has existed between it and one of its most brilliant members. Opportunity should also be taken to supply the future historian of the Society with a few brief facts concerning the life and works of a scholar of worldwide reputation.

Augustus Frederick Rudolf Hoernle, C.I.E., Ph D., was born at Secundra, near Agra, on the 19th October, 1841. His father was the Reverend C. T. Hoernle, who was during the greater part of his life a Church Missionary in India, and he came of an old German family, the earliest recorded ancestor living in the 15th century. He was taken home in the year 1843, and was educated first by a private tutor, and then, successively, at the Paedagogium in Esslingen, at the Gymnasium in Stuttgart, and at the 'Klosterschule' in Schönthal, all which places are in the Kingdom of Württemberg. In 1858 he went to Basel University, to study Philosophy with Professor Steffensen, to whom he twenty-two years later dedicated his first great work, the Gaudian Grammar; and, in 1860, to London, to study Sanskrit with Professor Goldstücker. He returned to India in the year 1865, and was appointed Professor of Philosophy and Sanskrit at Jay Narayan's College in Benares. He was elected an Ordinary Member of this Society at the December Meeting of the year 1872, his first contribution to the Journal of the Society, entitled *Essays in Aid of a Comparative Grammar of Gaurian Languages* which formed the basis of his Gaudian Grammar subsequently published, having appeared a few months previously. Dr. Hoernle spent the years 1873-1877 at home in England, where he was actively employed in the preparation of the latter work, which appeared in 1878, under the title of *A Comparative Grammar of the North-Indian Vernaculars*. In the same year he came out to India again as Principal of the Cathedral Mission College, which position he held till the year 1881, when he was appointed Principal of the Calcutta Madrasah and Professor at the Presidency College, posts which he is still nominally holding. In 1892, he was placed on special duty by the Government of Bengal to prepare an edition of the Bower Manuscript, and at present he is again on similar service, being employed by the Government of India to report on the British Collection of Central Asian Antiquities. In the year 1897 his high scientific attainments were recognised by Her Majesty, who conferred upon him the title of Companion of the Indian Empire.

It has already been stated that Dr. Hoernle joined this Society in the year 1872. He was elected Honorary Philological Secretary in 1879, and it is difficult to express in adequate terms the indebtedness of the Society to him for the tact and learning with which he edited its

Journal in the succeeding twelve years. He resigned this post in December 1891, but continued to give the Society the benefit of his learning and of his experience as a member of the Council. He was elected President in the year 1897. He has thus served the Society in nearly every possible capacity. As an Ordinary Member, he enriched its *Journal* with essays which upheld its reputation among European scholars; as the Editor of Part I of that *Journal*, he maintained its character, and with kindly words of encouragement and advice introduced to its pages younger students who have since themselves helped to maintain the high repute of the Society; and as President, he successfully guided the Society through a year of no common difficulty.

Dr. Hoernle's scientific writings are numerous,—how numerous it is unnecessary to tell readers of our *Journal*. It must suffice to mention a few of his more important works. His *Comparative Grammar of the North-Indian Vernaculars* has already been mentioned. It at once established his fame throughout Europe, as a philologist of the first rank. It was followed, in the year 1880, by his edition of Caṇḍa's *Prākṛta-lakṣaṇa*, a Grammar of an ancient form of the Prākṛit Language. His next work was the Comparative Dictionary of the Bihārī Language, written in collaboration with Dr. Grierson, which was commenced in 1885, the further issue, after the first two numbers, being temporarily suspended. In 1888–90 appeared the two volumes of his edition and translation of the seventh *Aṅga* of the Jains, entitled, the *Uvāsaga-dasāḥ*, in which he first appeared as an authority on the religion of that important sect. Since 1892, he has been principally occupied with the examination of the ancient Sanskrit literature discovered in Central Asia, and the fruit of these studies has been his magnificent edition of the Bower Manuscript, which has been issuing in parts since the year 1895. It is as a numismatist, as an archæologist and as an epigraphist that Dr. Hoernle has been best known to the scientific world of late years, and his numerous papers on this subjects in our *Journal* and in the *Indian Antiquary* are accepted universally as of the greatest and most material value.

It is with much pleasure, and with the greatest confidence that the Council have the honor of proposing his name as that of an Honorary Member of the Asiatic Society, the highest distinction which it can give. While on the eve of his departure from India, they regret the approaching loss of a friend who has endeared himself to all who know him, they wish him all happiness and prosperity and further honours, amidst his new surroundings.

Babu Hiralal Sen, Moulvie Mahomed Yusooḥ, Khan Bahadur, Mr. R. E. S. Thomas and Mr. H. Luson, expressed a wish to withdraw from the Society.

The SECRETARY reported the death of H. H. The Maharaja of Darbhanga.

The PRESIDENT announced that up to 31st December no essays had been received in competition for the Elliott Prize for Scientific Research for 1898.

The SECRETARY laid on the table a circular, dated 21st November, 1898, from the President, Royal Geographical Society, London, asking contributions on behalf of the National Antarctic Expedition.

The following papers were read:—

1. *The story of Hazuri.*—By DATARAM GIDUMAL, Judge, Shikarpur, Sindh. Communicated by the Anthropological Secretary. (Postponed from the last meeting).

The paper will be published in *Journal*, Part III.

2. *On the Kāçmīri Verb.*—By G. A. GRIERSON, PH.D., C.I.E., I.C.S. The paper will be published in *Journal*, Part I.

3. *Notes on Tamil Words and Ways.*—By A. C. CLAYTON. Communicated by the Anthropological Secretary.

4. *Note on a sacred tank at Amolai, Tahsil Chhibramau, District Farrukhabad.*—By CHARLES A. SILBERRAD, B.A., B.SC., I.C.S. Communicated by the Anthropological Secretary.

5. *Shagūn, or Rain-omen.*—By CHARLES A. SILBERRAD, B.A., B.SC., I.C.S. Communicated by the Anthropological Secretary.

6. *The Evil-eye and the scaring of Ghosts.*—By E. N. MAHADEVA SASTRIAR. Communicated by the Anthropological Secretary.

The papers will be published in the *Journal*, Part III.



PROCEEDINGS
OF THE
ASIATIC SOCIETY OF BENGAL.

FOR FEBRUARY, 1899.

The Annual Meeting of the Asiatic Society of Bengal, was held on Wednesday, the 1st February, 1899, at 9 P.M.

His Excellency Baron Curzon of Kedleston, G.M.S.I., G.M.I.E., Patron, was present.

THE HON. MR. H. H. RISLEY, B.A., C.I.E., I.C.S., President, in the chair.

The following members were present :—

Major A. Alcock, I.M.S., Captain A. R. S. Anderson, I.M.S., Mr. J. Bathgate, Dr. T. Bloch, Dr. A. Caddy, Dr. F. G. Clemow, Mr. W. B. Colville, Mr. W. K. Dods, Rai Narsing Chandra Dutt, Mr. F. Finn, The Revd. W. K. Firminger, Mr. G. W. Forrest, Major C. R. M. Green, I.M.S., Mr. C. L. Griesbach, C.I.E., Mr. J. N. Das-Gupta, Captain W. Haig, Col. T. Hendley, C.I.E., Mr. D. Hooper, The Revd. H. B. Hyde, The Revd. Father E. Lafont, C.I.E., Mr. C. Little, Kumar Rameshwar Malliah, Mr. J. Mann, Mr. R. D. Mehta, C.I.E., Mr. C. S. Middlemiss, Mr. W. H. Miles, Dr. Asutosh Mukerjee, Mr. L. de Nicéville, Mr. J. D. Nimmo, Mr. M. H. Oung, Mr. A. Pedler, Mr. H. M. Rustomjee, Babu Amritalal Sarkar, Dr. Mahendralal Sarkar, C.I.E., Mr. C. Saunders, Mr. M. J. Seth, Mahamahapodhyaya Haraprasad Shastri, Babu Nagendra Nath Vasu, Pandit Mahendra Nath Vidyanidhi, Dr. G. Watt, C.I.E., The Revd. J. Watt, Mr. C. R. Wilson, Mr. J. Wyness.

Visitors :—Captain F. L. Adam, A. D. C. to the Viceroy, Mr. and Mrs. C. Bendall, Dr. W. Booth, Babu Akshoya Kumar Bose, Babu Ganendra Nath Bose, The Revd. Mr. H. W. Cogan, Mr. E. C. Cotes, Mr. J. J. Cotton, Miss de Sélincourt, Mr. A. Grant, Mr. A. H. James, Mr. E. Kennison, Dr. A. von Krafft, Mr. W. R. Lawrence, C.I.E., Private Secretary to H. E.

the Viceroy, Babu Birajmohan Majumdar, Captain A. H. McMahon, C.S.I., C.I.E., Mr. M. R. Mehta, Babu Manmohan Mukerjee, Mr. W. Orrell, The Hon. Mr. J. D. Rees, C.I.E., Dr. A. Schulte im Hofe, Mr. W. Withall.

According to the Bye-laws of the Society, the President ordered the voting papers to be distributed for the election of officers and members of Council for 1899 and appointed Mr. C. L. Griesbach, C.I.E., and Mr. W. H. Miles to be Scrutineers.

The PRESIDENT then called upon the Secretary to read the Annual Report.

ANNUAL REPORT FOR 1898.

The Council of the Asiatic Society have the honour to submit the following Report on the state and progress of the Society's affairs during the past year :—

Member List.

During the year under review, 31 Ordinary Members were elected, 9 withdrew, 7 died, 3 were removed from the list under Rule 40, being more than three years absent from India. The total number of Members at the close of 1898 was thus 300 against 288 at the end of the preceding year; of these 122 were Residents, 108 Non-Residents, 11 Foreign, 23 Life, 35 Absent from India, and 1 Special Non-Subscribing Member, as will be seen from the following table which also shews the fluctuations in the numbers of Ordinary Members during the past six years.

YEAR.	PAYING.				NON-PAYING.				GRAND TOTAL.
	Resident.	Non-Resident.	Foreign.	Total.	Life.	Absent.	Special Non-Subscribing.	Total.	
1893	116	123	12	251	22	33	2	57	308
1894	98	125	12	235	22	36	2	60	295
1895	108	122	12	242	23	31	1	55	297
1896	105	119	11	235	23	35	1	59	294
1897	106	115	9	230	22	35	1	58	288
1898	122	108	11	241	23	35	1	59	300

The seven Ordinary Members, the loss of whom by death during the year we have to regret, were The Hon. Maulvie Sir Sayid Ahmad Khan Bahadur, Mr. Umes Chandra Batabyal, Babu Hara Chandra Chaudhuri, Mr. G. E. Grimes, Pandit Rao Govind Rao Narain, H. H. The Hon. Maharajah Sir Luchmessur Singh Bahadur, and Pandit Hari Mohan Vidyabhusan.

There was one death amongst the Honorary Members, *viz.*, Dr. Georg Bühler, and one amongst Associate Members, *viz.*, Mr. C. J. Rodgers, their numbers now stand at 23 and 9 respectively.

The Special Honorary Centenary Members and Corresponding Member remain at 5 and 1 respectively as last year, there having been no casualties.

No Members compounded for their subscriptions during the year.

Indian Museum.

One presentation made to the Society by Mr. F. J. Needham was transferred to the Indian Museum under the provisions of Act XXII of 1876, namely, the big Kettle-Drum, referred to in the Society's Proceedings for July 1898, page 186.

Mr. A. Pedler was re-elected a Trustee of the Indian Museum.

The other Trustees on behalf of the Society were:—

Dr. A. F. R. Hoernle, C.I.E., Dr. Mahendralal Sarkar, C.I.E., R. D. Oldham, Esq., F.G.S., G. W. Küchler, Esq., M.A.

Finance.

The accounts of the Society are shown in Statement No. 1, in the Appendix, under the usual heads. The closing balance for the year was Rs. 1,47,205-1-1 which is less, by Rs. 6,250-2-6 than that of the year preceding. It must be mentioned, however in explanation (1) that our expenses for the year in review include a sum of Rs. 5,829-8-6 for repairing the damage done to the building by the earthquake of 1897, and (2) that as a consequence of the stricter scrutiny demanded by Members at the last Annual Meeting our outstanding liabilities are abnormally small, being not much over a thousand rupees.

Statement No. 8 contains the Balance Sheet of the Society and of the different funds administered through it.

The Budget Estimate for 1898 was taken at the following figures:—

Receipts Rs. 17,700. Expenditure Rs. 22,210 (Ordinary Rs. 16,682, Extraordinary Rs. 5,528).

Taking into account only the ordinary items of receipts and expenditure for the year 1898, the actual results have been, Receipts Rs. 16,886-5-2 and Expenditure Rs. 18,995-7-8.

The receipts show a decrease of Rs. 813-10-10 while the expenditure shows an increase of Rs. 2,313-7-8 on the Budget Estimate.

The falling off in the receipts is due to non-payment of subscriptions by some of the Members.

This can be rectified by the Members themselves.

On the expenditure side, the items of "Lighting," "Postage," "Freight," "Contingencies," "Books," "Journal Part I," "Journal, Part II," "Proceedings," and "Printing Circulars, etc." all show an increase.

The increase of Rs. 20 for *Lighting* is due to the settling-up of some old outstanding gas-bills.

The increase of Rs. 28-1-3 for *Postage* is caused by the distribution of presentations of Dr. Grierson's *Kaçmiri Grammar*.

The increase of Rs. 62-3-0 for *Freights* is chiefly due to exceptionally large applications for back volumes of the Society's publications in exchange. The value of the exchanges received in return must be set against this.

A considerable part of the increase of Rs. 135-8-9 for "Contingencies" is accounted for by cold-weather uniforms for servants. This should have been estimated for, as it is a periodically recurring charge but was over-looked.

The increase of Rs. 1,172-1-3 for "Books" is in great measure accounted for by the fact that Messrs. Luzac & Co's. accounts for eighteen months had to be adjusted, whereas the estimates were for twelve months only.

The increase of Rs. 1,627-3-9 for *Journal* and *Proceedings* can be satisfactorily explained. As a matter of fact, the expenditure for the publications of the year in review has been under the estimate, and the increase is due to our having had to adjust large bills outstanding for the year 1897.

For *Journal Part I*, the expenditure shows Rs. 4,629-15-9 against a sanctioned estimate of Rs. 2,100 or an apparent excess of Rs. 2,529-15-9.

But, on the one hand, Rs. 1,912 of this apparent excess went to settle outstanding printers' bills for 1897—which reduces the excess to Rs. 617-15-9; and, on the other hand, an extra credit of Rs. 1,600 was made to *Journal Part I*, out of the accumulations of the Assam Government Grant for Ethnology, for printing an illustrated paper upon Assam Copper-plate Inscriptions. So that, taking the income of *Journal Part I* at Rs. 2,100 plus 1,600 = Rs. 3,700, and the expenditure at Rs. 4,629-15-9 minus Rs. 1,912 = Rs. 2,717-15-9, the publication of the ordinary papers in this Part has cost Rs. 982-0-3 less than the estimate. As a matter of fact, we have a small bill of Rs. 427-3-0 still outstanding

against the last number of Journal Part I for 1898 and the cost of the index has to be allowed for but even when these are included we are still well within the sanctioned estimate.

For Journal Part II the expenditure shows Rs. 3,279-8-6 against a sanctioned estimate of Rs. 2,100, or an apparent excess of Rs. 1,179-8-6.

But we have had to pay outstanding printers'-bills for 1897, amounting to Rs. 2,234-10-0, and our actual expenditure on Journal Part II for 1898 has been only Rs. 1,044-14-6, so that the Journal has really been carried on at a cost of Rs. 1,055-1-6 less than the estimate. There are bills for the last Number and Index of Journal Part II for 1898 still unpaid, but these only amount to Rs. 359-15-0 and the cost of Plate I has still to be included.

For Journal Part III the sanctioned estimate was Rs. 3,000, and the expenditure—excluding the grant, above-mentioned, of Rs. 1,600 for the paper in Part I on Assam Copper-plate Inscriptions—was Rs. 378-8-0. To this must be added Rs. 193-15-0, still unpaid for printing the last Number; but even with these additions we are nearly Rs. 800 within the estimate.

For the *Proceedings* the expenditure shows Rs. 1,599-3-6 against a sanctioned estimate of Rs. 1,000 or an excess of Rs. 599-3-6.

But outstanding bills for 1897, amounting to Rs. 520-4-6, are included in this expenditure, so that the *Proceedings* for 1898 have really cost very little more than the amount sanctioned, even if we include three small bills amounting in all to about Rs. 98, still unpaid for the *Proceedings* for November and December and for the Index.

There is a very slight increase of Rs. 4-15-0 under the head of "Printing Circulars."

In addition to the extraordinary expenditure for Earthquake Repairs, Rs. 117-9-0 was spent for putting up a new Lightning Conductor, and Rs. 36 was spent for a teak-wood cabinet to fit the Society's coin safe. Neither of these items were provided for in the Budget.

The Budget Estimate of probable Ordinary Receipts and Expenditure for 1899, has been fixed as follow: Receipts Rs. 17,000. Expenditure Rs. 16,782.

On the receipt side, the estimated income under the head "Subscriptions" is based upon the actuals of the last year. "Rent of Rooms" has been reduced by Rs. 300 as, unlike last year, there are no arrears due to us.

On the expenditure side, *Salaries* has been increased by Rs. 100, and a small addition of Rs. 40 has been allowed for "Freight."

We know at present of only one extraordinary item of expenditure to be allowed for during 1899, namely Rs. 140 for relining pictures.

The details of the Budget Estimate are as follows:—

Receipts.

Subscriptions	Rs. 6,600	0	0
Sale of Publications	600	0	0
Interest of Investments	5,500	0	0
Rent of Rooms	1,200	0	0
Government Allowances	3,000	0	0
Miscellaneous	100	0	0
Total	Rs. 17,000	0	0

Expenditure.

Salaries	Rs. 3,600	0	0
Commission	400	0	0
Pension	52	0	0
Stationery	120	0	0
Lighting	60	0	0
Municipal Taxes	819	0	0
Postage	600	0	0
Freight	80	0	0
Meetings	80	0	0
Contingencies	200	0	0
Books	1,500	0	0
Local Periodicals	16	0	0
Binding	750	0	0
<i>Journal</i> , Part I	2,100	0	0
" Part II	2,100	0	0
" Part III	3,000	0	0
<i>Proceedings</i>	1,000	0	0
Printing Circulars, &c.	200	0	0
Registration Fee	5	0	0
Auditor's Fee	100	0	0
Total	Rs. 16,782	0	0

Extraordinary Expenditure.

Furniture	140	0	0
Total	Rs. 16,922	0	0

In connexion with *Finance* there is one thing more to mention.

At the last Annual Meeting it was decided by a majority of eleven against ten "that the Council arrange during the coming year to prevent expenditure on the Journals exceeding the amount allowed by the Society in the estimates and report at the next Annual Meeting."

The Council accordingly have to report:—

- (1) That they have made arrangements that no paper shall be printed without an order in Council and without an estimate of cost being prepared beforehand by the Secretary responsible. By this means the Council will be kept constantly informed of the financial position of the current Journal.
- (2) That in Conference with the Baptist Mission Press they have obtained a reduction of five annas per page for printing the Society's *Journal* and *Proceedings*, and a very considerable reduction in the rate for wrappers.
- (3) That they have approved the Secretaries' proposals for obviating blank pages in the *Journal* and for making the *Accessions to Library*, published in the *Proceedings*, shorter and more compact.

All these matters will be found more fully reported in the Abstract of Proceedings of Council now before you. It is to be hoped that Members will bear in mind that these changes add very considerably to the work of the Honorary Secretaries.

As a matter of fact, the increased supervision of the Council and Secretaries has not yet shown any obvious result, though the results will be manifest enough next year. The immediate results are probably not quite what was expected: they show an increase, instead of a decrease, in expenditure.

This, as has already been explained, is due to the fact that in re-arranging our affairs we have had to make good the deficiencies of previous years.

Our only alternative was to put a complete stop to all our publications except *Journal* Part III, which was obviously impossible.

London Agency.

- The number of copies of the *Journal*, of the *Proceedings*, and of the *Bibliotheca Indica*, sent to Messrs. Luzac and Co., during the year 1898, for sale, were 380, 240 and 728, valued at £59-13-0 and £9-0-0, and Rs. 580-14-0 respectively.

The proceeds of sale of the *Journal* and *Proceedings*, and of the *Bibliotheca Indica* during 18 months were Rs. 619-3-5 and Rs. 146-3-2 respectively.

Twelve invoices of books purchased and of publications of various Societies sent in exchange, were received during the year. The value of the books purchased amounted to £61-17-11.

Continental Agency.

The number of copies of the *Journal*, of the *Proceedings*, and of the *Bibliotheca Indica*, sent to Mr. Otto Harrassowitz, the Society's Continental Agent, during 1898, for sale, were 81, 50 and 527, valued at £12-3-0 and £1-17-6 and Rs. 320-14-0 respectively.

The proceeds of sale of the *Journal* and *Proceedings*, and of the *Bibliotheca Indica*, during 18 months were Rs. 163-3-0 and Rs. 670-15-6 respectively.

Library.

The total number of volumes, or parts of volumes added to the Library during the year was 2,416, of which 711 were purchased and 1,705 presented or received in exchange for the Society's publications.

The accessions to the Library after June were published in one list in the December Proceedings, in accordance with the orders of Council (see Abstract of Council Proceedings for September).

Publications.

There were published during the year twelve numbers of the "*Proceedings*" (Nos. 10 and 11 of 1897, and Nos. 1-10 of 1898), containing 236 pages of letter-press and four plates; three numbers of the "*Journal*," Part I (Nos. 1-3 of 1898), containing 272 pages of letter-press and 14 plates; three numbers of the "*Journal*," Part II (No. 4 of 1897, and Nos. 1-2 of 1898), containing 439 pages of letter-press and 4 plates; two numbers of the *Journal*, Part III (Nos. 1-2 of 1898), containing 117 pages of letter-press. There were also published a Kāçmiri Grammar by Içvara-Kaula, edited by Dr. G. A. Grierson, Parts I and II, the Index to *Journal*, Part I for 1896 and the Index to *Journal*, Part II for 1897 and 1898.

Coin Cabinet.

During the year 16 coins were added to the cabinet, *viz.*, 12 silver and 4 copper, all of which were presented under the Treasure Trove Act by the Government of Bengal. They comprise coins of the following classes :—Punch-marked (silver) 3; Varāha (silver) 2, (copper) 4;

Vigraha (silver) 7. Detailed notices of these coins will be found in the Proceedings for June 1898.

The Philological Secretary has arranged the Society's Coin Cabinet to enable students to inspect the collection.

Office of Secretaries.

There is no change to report in the office of Secretaries.

Dr. T. Bloch continued as Philological Secretary and Editor of the *Journal*, Part I; Mr. F. Finn as Natural History Secretary and Editor of the *Journal*, Part II; Mr. L. de Nicéville as Anthropological Secretary and Editor of the *Journal*, Part III; Major A. Alcock, I.M.S., as General Secretary and Editor of the *Proceedings*; and Mahamahapadhyaya Haraprasad Shastri as Joint Philological Secretary.

Mr. G. W. Küchler carried on the duties of Treasurer throughout the year.

Mr. J. H. Elliott continued Assistant Secretary and Librarian throughout the year.

Pandit Annadaprasad Saraswati was appointed permanently as the Pandit of the Society in the place of Pandit Harimohan Vidyabhusan, deceased.

There were no other changes in the office establishment.

Bibliotheca Indica.

The Report refers only to such publications as have been brought to an end or taken up during the last year.

Arabic Persian Series.

1. Dr. Ranking has finished his translation of Vol. I of Badāoni's *Muntakhabu-t-tawārikh*. The translation of Vol. III of the same work has been entrusted to Captain Wolseley Haig, Officiating Secretary to the Board of Examiners, Calcutta.

2. A translation of the *Riyāzu-s-salāṭin*, edited for the Bibliotheca, by Maulvi Abdul Haq, has been entrusted to Dr. T. Bloch.

Sanskrit Series.

None of the current publications has been brought to an end during the last year. The following publications have been taken :—

- (1) An edition of the *Çatapatha Brāhmana* with Commentary, by Pandit Satyavratā Sāmaçramī;
- (2) An edition of the *Vivaraṇa*, a Sub-Commentary on Patañjali, by 2 Benares Pandit;

- (3) An edition of the *Abhilaṣītārtha-cintāmaṇi*, by K. M. Juglekar, Esq.;
- (4) An edition of the *Advaita-cintākaustubha*, by Babu Girindranātha Datta;
- (5) An edition of the *Gaṅgāvākyāvali*, with Geographical and Historical Notes, by Mahāmahōpādhyāya Haraprasāda Čāstrī;
- (6) An edition of the *Tantrarātna*, by Mahāmahōpādhyāya Chandrakānta Tarkālaṅkāra;
- (7) An edition of the *Jñātādharma-kathāsūtra*, being the sixth Aṅga of the Jainas, by Dr. T. Bloch;
- (8) An English Translation of the *Črāddhatattva*, by Babu Nakuliçvara Bhaṭṭācārya.

Owing to reasons which are detailed in the Presidential Address, none of these is sufficiently advanced for part publication.

ABSTRACT OF PROCEEDINGS OF COUNCIL DURING 1898.

January 28th.

The loan of the manuscripts of "Gunakāraṇḍa Vyūha" and "Dvāviniça Avadhāna" to Dr. Sten Konow, on the guarantee of the University of Christiania was approved.

It was ordered to pay the bill of Messrs. Mackintosh, Burn and Co., for Rs. 5,528-3-6 for Earthquake repairs.

An exchange of publications with the Keeper of the State Archives, The Hague was considered.

April 1st.

The loan of the manuscript of "Māasir-i-Rahimī," by 'Abdu-l-Bachī-i-Nihawandī to Mr. H. Beveridge was sanctioned.

The report of the Sub-committee to examine the Society's pictures was approved and it was resolved to ask Mr. E. B. Havell to let pictures Nos. 18 (The Farmer's Household by Morland), 34 (Ruins of Mahabalipuram), 43 (The Marquess Wellesley), and 94 (William B. Bird), be relined by the Head Master of the School of Art and to patch No. 18 (The Farmer's Household by Morland) at his convenience.

April 29th.

A special grant of Rs. 1,600 was sanctioned out of the accumulations of Assam Government Grants for Ethnological Research, for publishing, in Journal Part I, Dr. A. F. R. Hoernle's paper on Assam

Copper-plate Inscriptions; the order to be reported to members at the next General Meeting.

Pandit Annadaprasad Sarasvati was confirmed in the appointment of the Pandit of the Society.

May 27th.

Drs. L. A. Waddell and D. Prain were asked to accept seats on the Council of the Society.

The accounts of the Government Grants for Ethnology, written up to date, were ordered to be adopted subject to an addition of 20 % of "Postage on Journals" and 10 % of "Establishment."

It was ordered that in future no paper should be *printed* without a special order in Council and that each proposal to print a paper should be accompanied by a memorandum showing the probable cost of printing and the funds available.

The President's proposals on the subject of Indian Folklore Research were adopted.

July 1st.

Mr. A. Pedler was re-elected a Trustee of the Indian Museum.

The proposal of the American Philosophical Society for an exchange of publications with the Society was accepted.

July 29th.

It was agreed to exchange, *Journal*, Part II, for the "Kansas University Quarterly."

On the representation of the Secretary that the budget for the Proceedings for 1898 had already exceeded, it was ordered that the "*Proceedings*" be continued.

August 26th.

Mahamahopādhyaya Haraprasad Shastri was allowed travelling allowance from the Sanskrit Manuscript Fund to accompany Professor C. Bendall to Nepal.

Professor P. Peterson was asked to edit the "Upamiti-bhava-prapancha" for the Bibliotheca Indica.

Permission was accorded to Mr. C. H. Tawney to translate the "Prabandha-Cintamani" for the Bibliotheca Indica and *as a special case*, to print the work in England.

The relining of the pictures of Nos. 34 (Ruins of Mahabalipuram), 48 (The Marquess Wellesley), and 94 (William B. Bird) was entrusted to Babu A. P. Bagchi at a cost of Rs. 100.

It was ordered that the Catalogue of the Oriental Works in the Society's Library compiled by Pandit Kunja Behary Nyayabhushan, be printed at the charges of the O. P. Fund.

On the report of the Secretary upon the present financial position of Journals, Parts I-II, and Proceedings, it was ordered that the outstanding account for 1897 be paid and if necessary, Government Paper be sold out for the purpose. The budget grants for current year be kept separate and the Secretaries form a Sub-committee to report to Council as to the possibility of any reduction in the cost of printing the Society's publications.

September 30th.

On an application from the South African Museum, Cape Town, an offer was made of the Society's *Proceedings* and *Journal*, Part II, in exchange for their "Annals."

On an application from the Royal Geographical Society of Australasia, Adelaide, an offer was made of the Society's *Proceedings* and *Journal*, Parts II-III, in exchange for their "Proceedings."

It was agreed to lend the manuscript of the "Bôdhicâryavatatika" to Professor L. de la Vallée Poussin on the guarantee of the University of Ghent.

The proposal of Dr. Hoerule to publish his report on the Central Asian Antiquities as an Extra Number of *Journal*, Part I for 1899, was approved, provided the Government of India supplied the plates and paid for their extra copies.

At the instance of Sir George King, F.R.S., it was resolved to address the Government of the Straits Settlements with regard to a suggested contribution towards the publication in *Journal*, Part II, of the "Malayan Flora."

The relining of the picture of the Farmer's Household by Morland at a cost of Rs. 40 was sanctioned.

The following recommendations of the Sub-committee appointed to consider means for reducing expenditure on the publications of the Society were approved.

That in the *Proceedings* :—

- (i) The List of accessions to Library be condensed
 - (a) by the omission of Blue books not having a Literary, Scientific, Archæological, or other special interest (e.g., Traffic Returns);
 - (b) by entering all Serials once a year instead of once a month.
- (ii) The Extracts from the Proceedings of Council published with the Annual Report be much further contracted.

(iii) The Descriptive Catalogue of the Bibliotheca Indica published in the Annual Report be confined to new or completed works.

That in the *Journal* :—

(i) That every issue end at the bottom of a left hand page, and any surplus matter be carried on to the beginning of the next *Number*.

(ii) And that therefore the title of each Part of the *Journal* be printed only at the commencement of the volume for the year, instead of at the beginning of every *Number*.

That the following scale of printing and binding charges, which had been settled in Conference with the Manager of the Baptist Mission Press be accepted :—

1. *Proceedings*. The rate per page to be *three rupees*, except in the case of contributions involving the use of characters of more than one language (what the Press calls “bilingual articles”), *if such contributions extend over more than one page*. The rate for these exceptional articles will be *three rupees five annas* per page.

2. *Journals, Parts I, II and III*. The rate per page to be *three rupees*, except in the case of articles of special difficulty.

Special difficulty is to include (a) illegibility of MSS., (b) unduly heavy alterations in proof sheets, and (c) the need of a variety of characters (“bilingual articles”).

For these exceptional articles the rate will be *three rupees five annas* per page, except again in the case of extremely difficult articles, *like those by Dr. Grierson on Kashmiri Grammar* for which the rate will be *three rupees thirteen annas* per page.

3. Covers and “Doing up” :—

For *paper and printing of covers*, or wrappers there shall be one fixed consolidated charge of *ten rupees* for each *Number* of a *Journal* and nine rupees eight annas for each *Issue* of the *Proceedings*.

For “Doing up,” both of *Journals* and *Proceedings*, the charge shall be at the rate of *one pice and a half* per hundred copies of each page that the *Number* or *Issue* contains.

October 14th.

An exchange of publications with the Tufts College, Massachusetts, U.S.A., for the Society’s *Proceedings* and *Journal*, Part II, was approved.

November 25th.

The resignation of Mr. A. T. Pringle as a member of Council was recorded.

Dr. M. A. Stein's request to published his paper on the Ancient Geography of Kashmir as an Extra Number of *Journal*, Part I for 1899, was approved.

December 19th.

A meeting of the Council was called early in order that the recommendations under Rule 44 of the President, Vice-Presidents, Secretaries and other Members of Council for the ensuing year might be prepared and circulated to Resident members before the 1st January in accordance with that Rule.

It was recommended that Dr. A. F. R. Hoernle be proposed as an Honorary Member in the place of Dr. G. Bühler, deceased.

Also that Lord Curzon, the Viceroy and Governor-General of India, be asked to become the Patron of the Society.

The Report having been read and some copies having been distributed, the President invited the meeting to consider it at their leisure.

The **PRESIDENT** announced that the Elliott Prize for Scientific Research would not be awarded for the year 1898.

The **PRESIDENT** then delivered the annual address.

ANNUAL ADDRESS, 1899.

GENTLEMEN,

As the chief aims of this Society are scientific, and the main purpose of this address is to review the scientific work of the year, I shall content myself with a brief reference to those administrative facts which are fully stated in the Annual Report. We have elected during 1898, 31 new Members, the largest record of admissions since 1889; and our numbers, after allowing for deaths and withdrawals, are now higher than in any year since 1893. Fourteen Societies mostly Foreign and Colonial, have applied during the year to receive our Journal in exchange for theirs; and the number of original papers offered to us for publication has been so great as to cause some embarrassment to the Secretaries in respect of ways and means.

As to finance, the Treasurer's statement shows that we closed the year with a sum of Rs. 147,205-1-1 to our credit. This is less, by Rs. 6,250, than the closing balance of the year immediately preceding (1897), and less, by Rs. 5,849, than the average closing balance of the

three preceding years (1895-97); but, on the other hand, it is Rs. 6,019 better than the average closing balance of the seven years (1888-94) before that. So that when it is borne in mind that our expenditure for the past year includes the extraordinary item of Rs. 5,829-8-6 for repairing the damage done to the building by the earthquake of 1897, it will be apparent that the present state of our finances is not so bad as was at one time supposed. I am of course aware that the introduction of natural calamities, such as earthquakes and cyclones, in the familiar rôle of lodging-house cat is, as a financial expedient, neither novel nor convincing. But there is no mistake about the earthquake. It did damage in the way of bricks and mortar to the extent of nearly Rs. 6,000, and one of the bricks went through our best picture, credibly attributed to George Morland. It has cost money to repair the building and to mend that and other pictures also damaged. But on the whole we need not despair of our finances. One comfort is that if we do not wilfully shut our eyes we always know how we stand. We have that first requisite, an excellent method of accounts, which we owe to no less a person than Sir James Westland, who years ago when he was recasting the accounts of the Empire, found time to devise for this Society a system skilfully adapted to our special needs, which as the Secretary and Treasurer know, are in many respects peculiar and complicated owing to the number of ear-marked funds with which we deal.

The discussion that took place on our financial position at the last Annual Meeting has however served one most useful purpose. It has drawn attention to the necessity of treating a Budget provision with proper respect—a necessity which a scientific idealist is perhaps at times apt to overlook. The Council have stopped that leak at any rate, by ruling that no paper is to be printed without specific sanction given on a regular estimate of its cost. They have also obtained from the Society's printers a substantial reduction in the scale of charges for printing and making up our publications. Owing however to the more punctual payment of bills and to the fact that arrears of previous years had to be cleared off, the Council were unable to keep within the Budget allotments for the Proceedings and Journal. I hope matters are now on such a footing that this will not recur, and that we shall be able in future to administer our funds in such a manner that our activity in publication may not have to be restricted. A scientific society which does not publish a respectable number of papers has, as Matthew Arnold said of somebody's translation of Homer, no proper reason for existing.

I now turn to the work of the year.

WORK OF THE YEAR.

Under the heads of Philology and Archæology, as treated in Part I of the *Journal* and in the *Bibliotheca Indica* we have to consider the following sections :—

- (1) Modern Indian Vernaculars ; their grammar and literature ;
- (2) The classical languages of India : Sanskrit, Arabic and Persian ;
- (3) History and Antiquities : the latter term including Archæology, Inscriptions and Coins.

Among the languages now spoken in India, **Kāçmīri** has been hitherto unduly neglected by Oriental Scholars. Except for an imperfect grammar and dictionary, nothing to speak of has been done to elucidate the grammatical structure of this in many respects very important language. This gap has now been filled by Mr. Grierson, to whose scholarship the study of Modern Indo Aryan Vernaculars already owes so much. In the year under review, he completed his edition of *Īçvarakuula's Kāçmīruçabdāmṛta*, or "the nectar of *Kāçmīri* words," the work of a modern Pandit of Kashmir, which treats of the language of that country according to the system of Hindu Grammar. In a series of articles published in *Journal* Part I, Mr. Grierson has also dealt with the rules contained in *Īçvarakuula's Grammar*, in the systematic method of European scholars. Of this series, the last Volume of the *Journal* contains papers on the *Kāçmīri Nouns and Suffixes*, which for the first time make available a large amount of information hitherto inaccessible.

To the same Scholar we owe a clip from his Linguistic workshop of very exceptional interest. His paper on a dialect of Guzerati spoken in the District of Midnapur shows how, by circulating for translation a version of the parable of the Prodigal son (which judiciously substitutes a kid for the proverbial fatted calf) he has unearthed a queer tribe of criminal gipsies called Siyalgiris, about 120 strong, who speak a variety of the corrupt form of Guzerati current among the Bhils. How they found their way across India, what led them to split off from the main body of their tribe, and why they have maintained their language for 150 years while adopting, as is stated to be the case, the religion and customs of the people about them, are questions which may never be answered. Like most illiterate nomads, they are afflicted or blessed with short memories. One may perhaps venture to surmise that they found it convenient for professional purposes to keep up a language which their neighbours did not understand. It is stated that they marry only among themselves but have adopted the local Hindu pat-

ronyms which ordinarily have something to do with the regulation of inter-marriage. If this is so a parallel is to be found in the case of the Telingas, a small caste discovered in Bankura ten years ago. These people claimed and were believed to be the descendants of certain sepoy imported from Madras in the last century by one of the Rajas of Bishenpur. They married only among themselves, but had adopted, for the purpose of determining the prohibited degrees in wedlock, the totemistic section-names of the semi-aboriginal Bagdis and Bauris of Western Bengal. I can only hope that some local student of folk-lore will be moved to approach the Siyalgiris with the set of questions we circulated recently and will send us the results.

Mr. Grierson also contributed some interesting *Notes on the date of the composition of Tūlśī Dās's Rāmāyana*, which seek to establish the fact that the famous poet died in Benares of the plague, which in Jehangir's time ravaged India for eight years (1616-1624) and that he spent the last four days of his life in dictating the Hanuman-bāhuka, an appendix to the Kavitta-Ramayana, which describes the symptoms of his disease. The theory imputes to the poet astonishing vitality, but his description of what the faculty call an axillar bubo has certainly been distressingly familiar to all students of modern plague literature during the last two years.

Babu M. M. Chakravartti's paper on *Modern Oriya Poets* carries us still further to the East than Benares, the home of Tūlśī Dās. The learned gentleman has embodied in it a large amount of new information on the modern History of Orissa and its vernacular literature which may be said to owe its origin to the great religious movement which is connected with the worship of Kṛṣṇa.

While the papers just referred to deal with the vernacular languages of India, the greater part of the Philological work done by the Society concerns the classical languages of this country, *viz.*, Sanskrit Arabic and Persian. It would be beyond the scope of this brief review to mention all the names and titles of the various works published by the Society in the *Bibliotheca Indica* during the last year. Speaking generally, it may be said that the last year's outturn of fasciuli in this series has been below the average of former years. This deficiency appears to be partly due to the plague-scare which drove away from Calcutta many of our native editors and thus interfered with the steady pursuit of their literary work, and partly to the fact that a good many new works have been taken up, which have not yet advanced far enough for publication. Among those new works, it will be welcome news to all scholars who are interested in Vedic Literature to know that an edition of the *Çatapatha-Brāhmaṇa* has been entrusted to Pandit

Satyavṛata Sāmaçramī. This edition will meet a real want, as Prof. Weber's edition of the same text is now entirely out of print; it will moreover contain the whole of the Commentary, and not merely extracts from it. A further want hitherto has been a good *Translation of Suçruta*, the standard work on Hindu Medicine. This work now has been taken in hand by Dr. Hoernle, and the first fasciculus of his translation has already appeared.

A more modern work, the edition of which has been entrusted to the Society's Joint Philological Secretary, Mahamahopadhyaya Hara Prasad Shastri, is the *Gaṅgāvākyāvalī*. It belongs to the well-known class of Mahātmyas, dealing with holy places of pilgrimage, but it is considered to be of value for the history and geography of Ancient India. To the same class of literature belongs the paper by Babu M. M. Chakravartti on *Sanskrit Literature in Orissa*. The modern Sanskrit Literature of that country consists principally of Mahātmyas and Commentaries or systematic Treatises on Hindu Law. To Hara Prasad Shastri the Society also owes short notices of two new Sanskrit works discovered by him. The first is the *Pavanadūta*, written by Dhōyī, a poet who lived at the court of Lakṣmaṇasēna, the last king of Bengal in the 12th century A.D. It is an imitation of Kālidāsa's "Cloud-messenger" (*Mēghadūta*), the fiction being that a fair damsel of the South happened to see Lakṣmaṇasēna on his "conquest of the four quarters" and at once fell in love with him. She afterwards deputed a cloud to carry the message of her love to the king, who in the mean time had returned to his capital at Nuddia, and the poem describes the route by which the cloud travelled to "the garden on earth," as Bengal was naturally called by a local courtier. The second work is by *Āryadēva*, a famous teacher of Buddhism. It was discovered by Hara Prasad Shastri during his stay at Khatmandu.

Intimately connected with Buddhism was Jainism. Of the holy scriptures of this creed, the edition of the sixth Anga, the *Jñātādharma-kathāsūtra*, has been entrusted to the Society's Philological Secretary, Dr. Bloch, who hopes soon to complete it.

In the Arabic-Persian branch, most of the works undertaken by the Society deal with the history of Muhammedan rule in India, and those published last year, are concerned more especially with the history of the Emperor Akbar. Mr. Beveridge, a former President of the Society, has published three fasciculi of his translation of *Abu-l-Faẓl's Akbar-nāma* and while the fourth is nearly ready for issue. The same learned gentleman has also furnished the Society with an account of the *Memoirs of Būyazīd Biyūt*, a Steward of the Kitchen under Humāyūn and Akbar, who was asked by the latter king to commit to writing the history of

his life. These memoirs were utilised by Abu-l-Faẓl when composing the Akbar-nāma. Dr. Ranking has brought to an end his translation of the first Volume of the *Muntakhabu-t-tawārikh*, written by Abu-l-Faẓl's colleague, 'Abdu-l-Qādir-i-Bādā'ni, and a translation of the History of Bengal under Muhammadan rule, called "The Gardens of Kings" (*Riyāzu-s-salāṭīn*), has been entrusted to Dr. Bloch.

Of purely historical papers, I may first notice the continuation of Mr. W. Irvine's *History of the later Moguls*, dealing with the rule of Farrukhsiyar. It was to this king, that the famous embassy from Calcutta was sent, and one of the ambassadors was Edward Stephenson, afterwards for the short period of one day only "President and Governor of Fort William in Bengal." A paper by Mr. C. R. Wilson relates his history, and contains some interesting correspondence between Orme and Stephenson on the Revenue system of the Mogul Empire.

As compared with the period of Muhammedan rule in India, the earlier Hindu kingdoms suffer under the great disadvantage that no real historical records of those days exist. It is owing to this fact that we have to resort to Inscriptions and Coins as the only reliable sources of information. The Society, in the days of Prinsep, took the lead in this department and was the first to open a wide field of research, which is now being cultivated also by various other European and Indian learned Societies. Our Society, however, has never quite forgotten its illustrious traditions and last year a series of interesting epigraphical documents have been published. Dr. Theodor Bloch has edited an interesting inscription which is engraved on the pedestal of an ancient Buddhist statue excavated by General Cunningham in 1863 in a place identified by him with the famous *Çrāvastī*, the capital of Uttara-Kōsala. This identification, though lately disputed by some scholars, rests on strong epigraphical evidence, the fact being, as is shewn by Dr. Bloch, that the inscription—a document of about the last century B. C. or the first A. D.—records that the statue was set up in *Çrāvastī*, a statement which we have not as yet sufficient reason to set aside. The statue itself has moreover an important bearing on the subject of Buddhist Archæology which deserves to be worked out more carefully and systematically than has yet been done. During last year, the Society published a note by Dr. Bloch on certain *Sculptures representing Buddha as worshipped by Indra*, and he has been able to trace this subject from Bharhut, Sanchi, and Gaya through Mathura and Gandhara art, thus illustrating the intimate connection that exists between the Grecian sculptures from the North-West of India and the older, purely Hindu art.

Of Hindu Kings during the period after the Gupta Empire, a certain Mahārāja Bhōja has long been a much disputed personage, till the researches of Mr. Fleet conclusively proved that no connection existed between this Bhōja and the famous King Bhōja of Kanauj but that the former belonged to a family of petty chiefs, whose property was in the modern Districts of Benares and Oudh. A new *Copper-plate Inscription* of this Bhōja, edited by Dr. Bloch in last year's Journal, shows that a portion of their territory also lay in the Marwar State in Rajputana, and it furnishes us with the date 705 A.D. for the reign of this king. Of the Ganga Family of Orissa, a new document, an *Inscription in the Cāṣṣvara Temple* in Orissa has been discovered and edited for the Society by Babu N. N. Vasu, while Babu M. M. Chakravartti for the first time has tried to establish on epigraphical evidence a *Date* for the erection of the famous temple of Jagannātha in Puri.

Dr. Hoernle's edition of Copper-plate Inscriptions from Assam opens up a new page in the history of Ancient India. Nothing hitherto was known of those kings of Kāmarūpa, and they appear to have had no connection with other dynasties of Eastern India. Their date rests on palæographical conclusions; it is believed to have been the 10th and 11th century A.D.

Babu S. C. Das's papers on the *Antiquities of Ohittagong* according to Tibetan sources, and an *Account of travels on the shores of Lake Yamdo-Croft*, carry us further, beyond the frontiers of India proper; and to Turkish or Mongolian tribes probably also belong the *New Inscriptions* from Swat and Boner, *discovered by Major Deane*, and published with excellent facsimiles by Dr. Stein. Their decipherment hitherto has baffled the efforts of scholars; but from independent evidences they are believed to be the records left by a Turkish dynasty who reigned over those countries, between the 6th and 8th century A.D. and who claimed descent from the famous Kuṣāṇa King Kaniṣka. Dr. Hoernle's *Note on Block-prints from Khotan* also deals with an unknown character. These prints were apparently a sort of Buddhist prayer-book, repeating the same formula over and over again. The fact that they have been printed from inked blocks, is beyond doubt, and lends great interest to them. Dr. Hoernle moreover notices some resemblances between their characters and certain letters of the Kharoṣṭhī or Bactrian Pali script, which was used exclusively during the first centuries of our era in the country beyond the present North-West Frontier of India.

In the department of coins, mention must be made of a valuable paper by Mr. V. A. Smith, describing several new and rare *Indo-Bactrian and Hindu Coins*; also a few notes on *Coins of Çivaji* by Mr. Codring-

ton, and on *Gold coins from Angul* in Orissa, attributed to the Ganga Kings of Kalinga, by Babu M. M. Chakravartti, deserve notice. Of *Treasure Trove Coins*, 14 hoards, comprising about 2,500 coins, were examined and described during the last year by Dr. Bloch, the Society's Philological Secretary.

I cannot conclude these remarks without a reference to the irreparable loss which Oriental Learning has sustained in the last year by the untimely death of that eminent Sanskrit scholar **Prof. Georg Buhler**. Since 1895, he had been connected with the Society as one of its Honorary Members, and in former years he had sent us papers on different subjects of Hindu Law, on which he has long been one of the first authorities. His death will be felt for many years wherever the study of Indian History, Antiquities, and Literature is cultivated.

Among other Members whose death we have to deplore, I must mention the great educational reformer **Sir Sayyid Ahmad Khan**, who had been an Ordinary Member since 1860, and had long ago made his name as an archæologist. His *Āsāru-ṣ-ṣanādīd* or "Relics of Kings," published in Urdū in 1846 and 1854, still remains the standard authority on the antiquities of Dehli, and has been largely made use of by General Cunningham and other writers on the same subject. The late **Mr. Umesh Chandra Batabyal, C.S.**, an Ordinary Member since 1893, deserves to be mentioned here in connection with his edition of the Faridpur Copper-plate Inscription of Dharmapāla, the oldest document bearing on the history of the Pāla Kings of Bihar, which he had the credit of discovering and editing for the first time in the Society's Journal for 1894.

The name of the late **Mr. Ch. J. Rodgers**, an Associate Member since 1883, is intimately connected with Numismatic Research in India. Having been for many years an ardent collector of coins, especially Muhammadan coins, in the North-West of India, he applied the knowledge thus acquired to cataloguing the collections of coins of the various Museums in India. For this Society he published a long series of important papers on new or rare classes of coins, and one of his last works was the compilation of a Catalogue of the Society's Coins. This Catalogue unfortunately is still in manuscript, and we cannot at present afford to print it.

For the same reason we have been able to publish only two numbers of Part II of the Journal, dealing with Natural Science, but those contain some important contributions. I would in particular draw attention to Sir George King's *Materials for a Flora of the Malayan Peninsula*, of which the present year's issue of the Journal contains the tenth instalment. For the completion of this we look to some pecu-

niary assistance from the Government of the Straits Settlements which it is hoped will follow the liberal example of the Government of Netherlands India in respect of encouraging science. Major Alcock, I. M. S., has also published the third part of his *Carcinological Fauna of India*, dealing with the crabs of the family *Xanthidæ*, of which the Indian species alone number 153, nearly all represented in the collection of the Indian Museum. As this series which revises existing systems of classification is absolutely indispensable to anyone desiring to study the Crustacea of Indian waters, and is most important for work on these animals in general, it is very desirable that it should be completed and if possible illustrated by plates of new or rare or noteworthy species.

It must be remembered—and I take this opportunity of laying stress on the fact—that it is really to the Asiatic Society of Bengal that the scientific world owes the unique series of ichthyological data which have been collected in connexion with the Hydrographic Survey of the Indian coast. So long ago as June 1871, the Council of this Society appointed a Committee to report upon the advisability of deep-sea dredging in Indian waters. The report of the Committee—which is printed in our *Proceedings* for 1871—was forwarded by the Council to the Government of India, by whom it was so far favourably received that a Government grant was made for the purchase of the necessary apparatus. Nothing further followed, probably because no properly equipped vessel was available; but in 1876, when the present Marine Survey Department was fairly established, the Council again addressed Government on the subject. The result was that Government authorized the Council of the Society to confer directly with the Dockyard authorities as to the scientific outfit of the vessel designed for the accommodation of the Survey. In consequence not only did the Government equip this new vessel with apparatus for deep-sea research, but it also appointed an officer of the Indian Medical Service as Surgeon-Naturalist to the Survey. The new vessel was launched in 1881, and has since 1885 been systematically carrying on deep-sea investigations as a subordinate part of her routine. And now, thanks to the energetic initiative of the Council of the Society, there has been acquired a knowledge of the physical geography and fauna of the deep-sea-basins of the Indian region that will compare favourably with the state of knowledge of similar parts of the seas of Europe and North America. From the first, the zoological department of the Survey was, in accordance with the recommendation of the Council of the Society, associated with the Indian Museum, to the mutual advantage of both institutions. I have the authority of Dr. Günther, President of the Linnean Society, for stating that the result

thus obtained are of unrivalled scientific value and that they are in great measure due to the efforts of our Secretary, Major Alcock, who ranks among the first living authorities on this subject.

The rest of the papers in the past year's Journal have been short ones; Mr. L. de Nicéville has continued his work on the *Oriental Butterflies* by publishing two papers dealing with the geographical distribution of those insects; some new plants from the North-Western Frontier of India have been described, by Sir George King and Major D. Prain, I.M.S., and from Singapore and Borneo by Mr. A. N. Ridley, Director of the Botanic Gardens of Singapore. Another paper, by Chandra Bhushan Bhaduri, B.A., and Jyoti Bhushan Bhaduri, M.A., deals with *Double Thiosulphates of Copper and Sodium*. Finally the Secretary for this Part has himself published two brief notes on the change of plumage in certain birds and on an instance of aggressive behaviour in the Whip-Snake.

Some short papers of interest to Naturalists have been published in the *Proceedings*. Among them are (1) several Notes on *Ornithology* by Mr. F. Finn; (2) a paper on the *Geographical Distribution of certain Deep-Sea Animals* by Major Alcock, I.M.S., in which zoological evidence is adduced in support of the well-known geological theory that, in past times, the Mediterranean extended westwards to the Caribbean Sea, and eastwards far into the present limits of Asia; and (3) an Account, by Mr. F. Finn, of the rediscovery by Major C. R. M. Green, I.M.S., in the Afridi country, of the rare Scincoid Lizard *Eumeces Blythianus*.

In Ethnology and the cognate subjects dealt with in *Part III* of the Journal the record of the year's work is better than it has ever been before. Fourteen papers, dealing chiefly with Indian Folk-lore, have been published in the Journal, and we are now attempting to collect the data for a comparative study of this subject on a larger scale. In 1891-92 a scheme for promoting the systematic study of ethnography in India, which had been prepared by me in consultation with the late Professor Robertson Smith and Mr. J. G. Frazer, (the author of *The Golden Bough* and of the magnificent edition of Pausanias which has appeared recently) was circulated by the Government of India, and the suggestion was made that Societies formed for scientific inquiries might undertake to collate information sent to them. In connexion with this scheme the Asiatic Society of Bengal added to their Journal a third section dealing with Anthropology, Ethnology and Folk-lore and undertook to edit and publish suitable papers on these subjects. The number of papers received has, however, not been very large, and experience has shown that further organization is needed if any real progress is to be made towards the

end in view. It is not enough merely to invite those interested in the religious and social customs of the people of India to send in for publication any information they may obtain. Inquiry must be stimulated by indicating in some detail the manner in which it should be conducted, and simplified and directed by stating the form in which its results should be recorded.

The Council of the Society accordingly resolved last year to circulate widely a set of questions which had been drawn up at my request by Mr. William Crooke, late of the Indian Civil Service, the author of *The Popular Religion and Folk-Lore of Northern India*. If persons interested in the subject will collect replies to the questions and send them to the Anthropological Secretary of the Society, in the form of papers or notes dealing with a particular custom or belief or superstition, they will be published in the third part of the Journal. It is hoped that in course of time sufficient information may thus be collected to form the basis of a comparative study of the Folk-lore of different parts of India.

A few words of explanation may be added. Folk-lore has been defined by the English Folk-lore Society as "the comparison and identification of the survivals of archaic beliefs, customs and traditions in modern ages." The definition marks the distinction between Folk-lore and the allied studies of ethnography, ethnology and anthropology, none of which are exclusively concerned with survivals. But the term 'survival,' which is of the essence of the definition, is itself relative, and in considering how researches into Folk-lore should be conducted in India, two points must be borne in mind. First, that in relation to European institutions nearly the whole body of Indian custom, usage and tradition may be regarded as a series of survivals. Secondly, that within this series are to be found usages of different age and origin, some of which may have survived or been adopted from Non-Aryan sources. The latter have, as is well-known, a tendency to decline in popular estimation and either to disappear or to be so transformed that their origin can no longer be traced. Of recent years this tendency has been increased by the spread of education the revival of both Hinduism and Islam and the extension of railways which in the matter of usage as in that of prices tends to produce a dead level of uniformity. It should therefore be one of the chief objects of the inquiry now suggested to ascertain and record the more primitive customs and to endeavour to distinguish them from those which are believed to be of Aryan origin. Particular attention should be given to those customs and beliefs which are handed down orally and are not recorded in writing.

It has always appeared to me that there is a tendency to overlook the extent to which studies of this kind—studies of living Indian usage as opposed to the practices enjoined in books—throw light upon some of the obscure passages in the records of classical antiquity. Without entering on such intricate matters as the origin of the *gens* or *γένος* and its possible relation to the various types of exogamous groups which abound in India at the present day, or the Ancestor worship which M. de Coulanges has so admirably handled in *La Cité Antique*, I may venture to give one or two simple illustrations of what I mean. In a delightful essay in his book on Custom and Myth, Mr. Andrew Lang refers to the passage in the *De Corona* where Demosthenes describes the youths of his adversary aslines and taunts him with the fact that his mother was a sort of wise woman or 'white witch' who assisted at the celebration of mysteries and that he himself helped her by smearing the worshippers with a mixture of clay and bran. Mr. Lang quotes some savage parallels and comes to the conclusion that as to the meaning of this "very un-Aryan practice one has no idea." But is it so certain, in view of what may be seen every day in India, that the practice of smearing or *lip-ing* the body with mud on certain occasions is really un-Aryan? May it not have been for the Greeks, as it is I believe for the Hindus, an act of ceremonial purification, handed down from the common ancestors of both races and based upon some symbolism which may have been known only to the initiates of the mysteries or forgotten even by them?

Then there is the curious incident at the beginning of the Oedipus Coloneus where Oedipus and his daughters unwillingly violate a sacred grove on the hill of Colonus and are required to pay their footing by a sacrifice. You will not find many sacred groves in Europe now; but in Chota Nagpur there are plenty, and if you propose to violate them for the purpose of sport you must sacrifice to the goddess or not a single beater will enter that jungle. The ritual is simple and, as I know by experience, not unduly expensive. There are, I believe, parallels in Pausanias, who wrote a sort of Baedeker of Greece a good many years ago, and I fancy a comparative study of the subject would be worth undertaking.

Lastly I may mention the famous scene in the Odyssey of the slaying of the suitors by Ulysses, which has given rise to much learned discussion by reason of the supposed difficulty of understanding the construction of the hall and its relation to the women's apartments. One thinks of it as arranged like a College Hall, with the dais at one end and the door at the other, and one fails to understand why the suitors

when they found themselves being slain by arrows shot from the dais did not simply go out of the door and thus baulk Ulysses of his revenge. A glance at the structure of a large native house settles this and other minor difficulties and makes it clear that what is called the dais was at the entrance of the hall, that the suitors were hopelessly trapped, and that the poet had before him a vivid and consistent picture of the scene which he describes — not the tissue of complicated improbabilities which some of his critics have vainly imagined. I have said enough to indicate a line of thought which seems to promise interesting results. It is perhaps not too much to hope that we may look for help in this direction from the successful headmaster and accomplished scholar who has now cast in his lot with the East.

We have the rare privilege of welcoming in person here this evening Lord Curzon of Kedleston the last on a long roll of distinguished Patrons of this Society the first being Warren Hastings whose picture, side by side with that of Sir William Jones the first President, faces His Excellency this evening. Lord Curzon comes to us with an established reputation in science and literature and he has already done us a service which I trust will serve to extend the usefulness of the Society and will bring us into closer touch with scientific research throughout the world. He has personally interested himself in a superb scheme, initiated by the Royal Society and carried on by them for many years from their own resources, for drawing up and publishing an Index of scientific papers, so that any one who is working at a particular branch of science shall be able to ascertain from the Index everything that has been written on the subject with which he is concerned. It is proposed now to reconstitute the Index on an International basis and in an improved form with effect from the year 1900 and to entrust to this Society the Indian section of the work with, I may add, what seems to Mr. Pedler and myself an adequate measure of assistance from the Government of India. We trust that our action in this matter will meet with the approval of the Council and I am sure that you will join with me in the hope that under the auspices of our new Patron we shall enter upon an era of wider influence and increased activity.

At the request of the President, Prof. C. Bendall made the following remarks on the results of his recent journey to Nepal in search of Sanskrit Manuscripts and Inscriptions :—

“Your Excellency, Mr. President, Ladies and Gentlemen, I feel it a quite unusual and special honour to be allowed to say a few words this evening as to my recent visit to Nepal. Most of my hearers have some

notice of the claims of that interesting and beautiful country on the special attention of scholars. In this room, adorned by the bust of one of the most distinguished members of this Society, my late revered friend Brian Houghton Hodgson, it is specially fitting briefly to refer to them. To Hodgson, by far the most eminent of Residents in Nepal, the world owes the revelation of the existence in India of an extensive literature of Buddhism—in many respects, the most important of Eastern religions, and till then supposed to have been entirely swept away from its birthplace, the continent of India.

The fact is that during the Muhammadan invasions, Nepal, never entered by the invaders, became a refuge for the Buddhists of Mithilā and Bengal. The excellent climate also of the country seems to have been favourable for the conservation of manuscripts. This fact was first prominently brought out by the collections of Dr. Daniel Wright, Residency Surgeon at Kathmandu. Hodgson's collections were chiefly modern copies, but Wright acquired from 1873 to 1876 a large number of palm-leaf originals. Of the greater portion of these, now at Cambridge (some also at the British Museum) I have compiled printed catalogues, and amongst them is a work which is noteworthy as the oldest Indian MS. bearing a date, that date being assigned by me to an era making it equivalent to 857 A.D.

But I am able to shew you to-night photographs of books written as early as this and some probably considerably earlier. By the kindness of the Nepalese authorities, I was enabled to spend many days in the examination of the Mahārāja's splendid collection of MSS., much assisted by one of your Secretaries, Mahāmahōpādhyāya Haraprasād Čāstrī, and by his assistant, Binōda Bihārī who is still at work there. An exhaustive report will be later on presented to you. At present, therefore, I need only briefly refer to some of the most important discoveries.

The existence of the Mahārāja's Library was first made known by Mr. R. Lawrence in 1863, and subsequently mentioned by Dr. Wright. By the present time it has been much increased and is still receiving accessions. The MSS. are packed in cloths according to the native fashion. In one of those bundles I found palm-leaves with writing in a peculiar form of character which though Indian, has never been found in India itself, but only in MSS. from Central Asia. Dr. Hoernle calls this character the North-Western Gupta script, or simply North Indian Gupta, and the date assigned to it by him and Prof. Bühler, is the 5th century A.D.

A second discovery of mine needs a few words of explanation in a gathering including some who are not Oriental Scholars. Buddhism is divided into two great sects, called the *Mahāyānu* or "great vehicle"

and the *Hinayāna* or "small vehicle." The books of those two sects are written respectively in a mixed Sanskrit dialect, also called Gāthā dialect, and in Pāli. The latter books have been hitherto found only in Ceylon, Burma, and Siam, and Pāli is generally believed to have disappeared from India proper at an early date in the history of Buddhism. The discovery, however, of a fragment in Gupta writing of the 9th century A.D., containing part of the *Oullavagga* from the *Vinaya*-section of the Pāli *Tripitaka*, shows that the hitherto universally accepted theory as to the early disappearance of Pāli from India cannot be any longer upheld. This MS. is the first Pāli book found on the continent of India.

The discovery of early MSS also tends to settle questions of literary history. Thus the extant Purāṇas have been pronounced by most critical scholars to be quite modern compilations, the oldest of them not earlier than the 9th century A.D. In this connection it is of great value that a MS. of a considerable portion of the *Skandapurāna*, written not later than the 9th century A.D., has come to light in Nepal. The interesting MS. has been acquired by Haraprasād Čāstri for your collection, and you may expect to hear from my learned friend more about the importance of the book on the general history of the Purāṇas.

Another valuable find is the discovery of two old copies of *Vidyāpati's* poems. The works of this famous author have hitherto been chiefly known from bad, modernized editions which were of no value for linguistic purposes. The new manuscript probably will prove of great importance for settling the difficult question as to what the language used by Vidyāpati actually was.

In connection with history, I must mention the great importance for historical purposes of Colophons of ancient dated MSS. What is wanted for the history of India previous to the Muhammadan period, is a series of contemporary evidence of scribes as put down in those Colophons of MSS. Of such dates bearing kings' names I have been able to collect for Nepal a series of not less than sixty, ranging from 1000-1600 A.D., thus giving a fairly complete outline of the history of these centuries.

For Inscriptions Nepal has already proved an excellent hunting-ground. Bhagvāndal Indrajī in 1873, I myself in 1884, Prof. S. Lévi in 1897, discovered a large number of most valuable epigraphical documents. In addition to those, my recent journey has yielded about fifteen new Inscriptions, most of which are of considerable antiquity and importance for the history of Ancient Nepal.

Modern Nepal, its population with their customs and superstitions, also is a promising field to the student of ethnology or folk-lore.

Buddhism, as is well known to you, still exists there, and one may still note here, as in other Buddhistic countries, the great resemblance that exists between their form of divine worship and that of the Catholic churches. Thus, prostrations like the *chemin de la croix*, scapulars, banners, incense and rosaries are much in vogue among them, and holy amulets are revered and kissed by their votaries with the same firm belief in their efficacy, as a pious Catholic looks upon objects brought from holy places of his own creed.

Another feature of religious worship in Nepal that struck me very often, is the intimate connection one observes between nature worship and a sense for the beauty of scenery. People seem to prefer for their places of worship localities with picturesque scenery such as lofty mountains, huge trees, etc., and one cannot help thinking that nature worship always has been and still is influenced by this aesthetic feeling, which we generally are led to deny to the lower races of man.

At the side of Buddhism, Hinduism exists, without any spirit of enmity. Brahmins partake in Buddhist festivals, they worship their statues and erect Stūpas over their lingas. Women are not excluded from religious ceremonies, and the purdah system of modern India is unknown to them. At a Bṛhājātrā, a Buddhist festival which I had the pleasure of witnessing, and printed invitations to which I am showing you to-night between 7 to 10,000 *bhikkhus* were fed at the expense of a Buddhist layman who was present with his wife and whole family. The king was present in theory only, he being represented by the acting Prime Minister. The term used for this feast in the invitation which is written in Sanskrit verse and Newari prose, is *śamyuk-sambhōjana*, or "complete feast." The festival consisted in the dedication of a costly image of Buddha with a display of a number of images similarly dedicated in past times.

The juxtaposition of Buddhism and Hinduism in Nepal gives us an idea of the actual relations of both religions in India during the last centuries before the Muhammadan invasion. Hinduism, it appears, gradually absorbed Buddhism; no persecutions ever existed, but what happened merely was this that Buddhism slowly and by degrees became more and more Hinduized. It is for this reason, that the study of modern religious life still deserves more notice than has been given to it previously. It is highly probable, that a good many traces of Buddhistic survivals still may be found among the popular forms of worship in India, as has been shown of late in one instance with regard to Dharma worship in Bengal, the discovery of which is due to my learned friend Haraprasād Chāstri.

Finally, it is a pleasant duty to me to record the eminent services

done to me by the Nepalese Government in affording every possible facility both to me and to your joint Philological Secretary. The people wherever I met them, specially the pandits and librarians with whom I came into contact, always showed me the greatest possible kindness. The work of your joint Philological Secretary, who was specially deputed in connection with the search for Sanskrit MSS., has been eminently successful, and not less than 29 MSS., chiefly Palm-leaf MSS., have been purchased by him with my own co-operation for your collection. I therefore beg to suggest that the thanks of the Society by its President might be sent to His Highness the Prime Minister of Nepal and to his brother and representative, His Excellency the Commander-in-Chief for the great services rendered to me, as also to the Society's officers working in connection with me."

Prof. C. Bendall also exhibited enlargements of Photographs taken from MSS. and Inscriptions referred to in the above remarks, as also various other objects of interest collected by him in Nepal.

His Excellency the Viceroy said it gave him great pleasure to be present on that occasion. He had come there not in his official garb as patron of the Society, but as a student and writer who had himself profited by its publications, and who was intensely interested in its work and welfare. He was glad to have heard the interesting inaugural address of Mr. Risley, and the account by Mr. Bendall of his recent researches and discoveries in Nepal. The latter was a country of great interest, in which he doubted not that original discoveries would await the future explorer and student. Mr. Bendall's remarks on two subjects in particular had confirmed his own observations in Asiatic travel. The parallelism which Mr. Bendall had noticed between some of the features and practices of Roman Catholicism and of the Buddhist religion in Nepal had been observed in many other countries, and was one of the commonplaces of Oriental travel. He had himself made some study of monastic life and institutions in China, and had made a careful note of the many points of resemblance between the ritual, theology and to some extent even the dogma of the two religions. Perhaps it was this coincidence that in some degree explained the easy entry of the Roman Catholic propaganda into some Asiatic countries. The combination of a sort of nature worship with an aesthetic regard for the beauties of natural scenery had also greatly struck him in Corea, and he gave an account of the annual mission of the State embassy from Soeul to pay homage to the Long White Mountains in the north. As regarded the work of the Asiatic Society of Bengal, although as he knew that it consisted mostly of voluntary effort and that they did not spurn the help of amateurs, he yet did not personally regard its actions

as the mere academic exercise of students. He looked upon it rather as part of a duty which we owed to India. Planted as we had been by Providence upon the throne of the Indies we were trustees for the world of a literature, an archæology, a history and an art that were among the priceless treasures of mankind. For nearly 3000 years there had been a succession of kingdoms, dynasties, races, and religions in India, all of them bearing relics of some sort, many of them relics of the highest value, which it was incumbent upon us to examine, to elucidate, and to conserve. It was sometimes said that officials in India had now-a-days no time for independent study or research. "No time" was always the excuse of idleness, and the busiest man was usually he who had most time at his disposal. He did not, therefore accept that plea as an excuse for any relaxation in the efforts which so many distinguished members of the Society had made in the past, and during his term of office he meant to do whatever lay in his power to encourage research, to promote study, and to safeguard the relics of the past as a part of our imperial obligation to India.

The PRESIDENT announced that the Scrutineers reported the result of the election of officers and members of Council to be as follows :—

President :

The Hon. Mr. H. H. Risley, B.A., C.I.E., I.C.S.

Vice-Presidents :

A Pedler, Esq., F.R.S.

The Most Revd. Archbishop P. Goethals, D.D., S.J.

Col. T. H. Hendley, C.I.E., I.M.S.

Secretaries and Treasurer.

T. Bloch, Esq., Ph.D.

F. Finn, Esq., B.A., F.Z.S.

L. de Nicéville, Esq., F.E.S., C.M.Z.S.

Major A. Alcock, M.B., C.M.Z.S., F.G.S., I.M.S.

Mahamahopodhyaya Haraprasad Shastri, M.A.

C. R. Wilson, Esq., M.A.

Other Members of Council.

Dr. G. Watt, C.I.E.

R. D. Oldham, Esq., A.R.S.M., F.G.S. •

Captain A. R. S. Anderson, B.A., M.B., I.M.S.

The Revd. H. B. Hyde, M.A.

Major L. A. Waddell, LL.D., I.M.S.
W. K. Dods, Esq.
J. D. Nimmo, Esq.
Dr. Mahendralal Sarkar, M.D., C.I.E.
Shams-ul-Ulama Shaikh Mahomed Gilani.

The Meeting was then resolved into the Ordinary General Meeting.
THE HON. MR. H. H. RISLEY, B.A., C.I.E., I.C.S., President, in the chair.

The minutes of the last meeting were read and confirmed.

Thirty-three presentations were announced.

Mr. Abdul Aziz Khan, B.A., 130 Harrison Road; Captain A. H. McMahon, C.S.I., C.I.E.; Mr. Julian James Cotton, B.A., I.C.S., were ballotted for and elected Ordinary Members.

Dr. A. F. R. Hoernle, C.I.E., was ballotted for and elected an Honorary Member.

Dr. Fritz Noetling, Babu Ashutosh Prammanick, and Babu Bhupendra Nath Bose, expressed a wish to withdraw from the Society.

The PRESIDENT laid on the table a letter, dated 28th January, 1899, from the Private Secretary to the Viceroy and Governor-General of India, conveying Lord Curzon's acceptance of the office of Patron of the Asiatic Society of Bengal.

The PHILOLOGICAL SECRETARY announced the presentation of a Copper-plate Grant of Madanapāla Dēva from Mr. N. K. Bose, I.C.S.

No papers were read.

The proposal of the President, at the suggestion of Prof. C. Bendall, that the thanks of the Society be accorded to H. H. the Prime Minister of Nepāl and to H. E. the Commander-in-Chief of Nepāl, for the great services rendered to Prof. Bendall and to the Society's officers who accompanied him, was unanimously approved.



PROCEEDINGS
OF THE
ASIATIC SOCIETY OF BENGAL,
FOR MARCH, 1899

The Monthly General Meeting of the Asiatic Society of Bengal was held on Wednesday, the 1st March, 1899, at 9-15 P.M.

COLONEL T..H. HENDLEY, C.I.E., Vice-President, in the chair.

Twenty-two Members and five Visitors were present.

The minutes of the last meeting were read and confirmed.

Twenty-five presentations were announced.

Mr. C. W. McMinn, B.A., I.C.S., (retired), Mr. J. C. Mitra, M.A., B.L., Lieutenant Bernard Scott, I.S.C., and Mr. A. Tocher, were balloted for and elected Ordinary Members.

The Council recommended the following gentlemen for election as Associate Members at the next Meeting:—

Rai Bahadur Ram Brahma Sanyal, Superintendent, Alipur Zoological Gardens, proposed by Mr. Finn, seconded by Mahamahopadhyaya Haraprasad Shastri.

Pandit Viṣṇu Prasād Rāj Bhāṇḍarī, Chief Librarian, Maharajah's Library, Khatmandu, proposed by Mahamahopadhyaya Haraprasad Shastri, seconded by Dr. T. Bloch.

Babu Syamadas Mukerjee and Mr. G. Lyell expressed a wish to withdraw from the Society.

Major A. Alcock, I.M.S., exhibited (a) an interesting instance of commensalism between a fish and a zoophyte; and (b) some models of some typical deep-sea fishes made by native artists and made the following remarks upon them.

The specimen here exhibited is one of the few known instances of true commensalism, in the fullest sense of the word, in which a fish and a zoophyte are the partners. I may perhaps be permitted to explain, for the benefit of those present who are not zoologists, that commensalism is the name applied to the arrangement—no doubt an entirely mechanical and unconscious result of natural selection—by which two animals of different grades in the zoological scale become definitely associated together for their mutual advantage. It must not be confused with parasitism, where one animal is supported at the expense of another.

The specimen exhibited is a little fish called *Minous inermis*, belonging to the family *Scorpaenidæ*. Most of the members of this family live either at the bottom of the sea or among rocks that are overgrown

with sea-weeds and zoophytes, and many of them have their skin beset with filamentous outgrowths which look like waving fronds of sea-weed and give these fishes a most deceptive resemblance to the weed-encrusted objects among which they lie concealed. By this means not only does the fish escape the notice of its enemies, but it avoids scaring—if it does not actually attract—the little animals upon which it preys.

In the present instance there can be no doubt that the sluggish little fish covered with waving zoophytes would benefit in the way supposed.

On the other hand the zoophytes must receive as much good as they give; for instead of being fixed for life in one place and being entirely dependent on currents of water for food and air, they are continually being carried to fresh waters and pastures new by the fish upon which they are growing.

I have already—in the *Annals and Magazine of Natural History* for September, 1892—given the proofs that the relation that exists between this particular species of fish and this particular species of zoophyte is a definite and constant, and not an accidental, one, and that it is a reciprocally beneficial, not a parasitic one, and I only allude to the subject again to-night because Capt. Anderson, the present Naturalist on the Investigator, has been fortunate enough to catch recently, off the Malabar coast, no less than 16 specimens—of which this is one—of the fish, all of which have the commensal polyp growing on them.

The coloured models of deep-sea fishes that are here exhibited are interesting in two different aspects: first, as representing in as nearly as possible their natural form and colour—undistorted and unbleached in the manner of spirit specimens—curiously modified forms of life that are inaccessible to most observers; and secondly, as illustrating the application of native talent to the elucidation of Natural Science.

It is unnecessary to speak at length of the peculiar conditions under which life exists in the great depths of the sea, the only facts that I need here call to remembrance are (1) that no sunlight can penetrate into the abysses and that therefore (2) no plants can live there.

It follows (1) that animals that have no eyes will not, merely on that account, be worse off in the struggle for existence than animals that have them; (2) that animals that possess their own means of illumination will have a fine field for development, and (3) that there is likely to be a specially keen competition between carnivorous animals—a competition likely to lead to the development of formidable teeth and maws.

These three evolutionary possibilities are all exemplified in actual fact and are all illustrated by these models.

1. *Tauredophidium Hextii*, the subject of the first model, is at present only known from the Bay of Bengal, where it lives at a depth

of 1,310 fathoms. We may be pretty sure that it actually lives at the bottom; for its large head, its short slender and tapering tail, and its extremely short and small gill-plates, show that it cannot be an active fish. At a depth of 1,310 fathoms we may be sure that there is no sunlight, and we are therefore not surprised to find that in *Tauredophidium* the eyes are completely atrophied and are safely embedded in connective-tissue which, again, is covered over by the skin of the head.

2. *Aulastomomorpha phosphorops* and *Thaumastomias atrox* are known in these seas from 1,000 and 1,310 fathoms respectively. They are, without doubt, actively locomotive fish, and probably swim about in the gloom of the middle depths. Whether they move in gloom or in absolute darkness is probably immaterial for both of them are richly provided with organs that—like the luminous glands of fire-flies—secrete phosphorescent light. Their eyes are well developed—in *Aulastomomorpha* enormously so, for the same reason that the eyes of many familiar nocturnal land-animals are peculiarly large.

3. *Thaumastomias atrox* and *Chiasmodus niger* illustrate the action of deep-sea conditions on ravenous animals such as the majority of fishes are. Observe the formidable teeth, the cavernous mouth, and (in *Chiasmodus*) the enormously distensible stomach.

4. I have lastly to shew a model that appears to upset our calculations. It has been implied that *Tauredophidium* has lost its functional eyes because it lives in the dark, and that *Aulastomomorpha* and *Thaumastomias* although they live in darkness, or, at any rate, in deep gloom, have retained their eyes because they have acquired their own means of illumination. But here is a fish *Benthobatis moresbyi*, which undoubtedly lives at the bottom and at a depth to which sunlight does not penetrate, and which—as we should therefore expect—is blind, but which yet has, in the skin of its back, numerous little luminous pores.

The probable explanation of this apparent anomaly is that the pores are lures to attract prey—the prey being then instantly killed or disabled by the powerful electric organs which *Benthobatis* possesses.

Mr. F. Finn exhibited six specimens (three living) of the Bronze-cap Teal (*Eunetta falcata*) and one of the clucking Teal (*Nettion formosum*) obtained recently in the Calcutta market, and made remarks upon them.

Mahamahopadhyaya Haraprasad Shastri exhibited a MS. of the *Aṣṭasāhasrikā Prajñāpāramitā* written in Nālanda and discovered by him in Nepal and made the following remarks.

The manuscript which I exhibit to-day was acquired at Bhātgāon from a Buddhist priest named *Maṇiharak*. We have got many copies of the *Aṣṭasāhasrikā*, but none so interesting as this. The chief interest lies in the fact that the manuscript was copied at Nālanda, the great Buddhist monastery where Hiou Tshang received his knowledge of the

mysteries of Buddhist philosophy and which he described as the largest educational and monastic establishment in the world. We have here a genuine relic of the old monastery or university.

The second point of interest is that it was copied in the 6th year of the reign of Mahipāla, the son of Bigrahapāla, who flourished in the beginning of the 11th century. The third point of interest is that the date is recorded in a most curious fashion, अभिलिखमाने पचाहे सवत्सरे, in the year indicated in the page mark about to be written. This page mark is 303. So it was written in that year of a certain era. Which era? It cannot be the Gupta era; it cannot be the Çriharṣa era. In both cases the manuscript would be earlier than Mahipāla. The Nepal era is out of the question. Because it was never prevalent at Nālanda, and that would give a date too late for Mahipāla. The fourth point of interest is that it is the gift of one who describes himself as Çākṛyācāryya Sthavira Sādhu Gupta. Evidently this man was not a Viṣṇu; he was a Gṛhastha, but a Buddhist priest with the surname Gupta, a title now exclusively assumed by the Vaidya caste in Bengal. The writer was Cintāmāni who describes himself as Kalyāṇamitra, i.e., a Buddhist priest. He wrote this at Nālanda. The exact day is given कार्तिक शुक्ल चतुर्थी नवसवारे. The work shows many various readings and it would be interesting to collate it with the printed text.

Many of the illuminations are in very good preservation. The one giving the scene of Buddha's death at the end is very good. The five Buddhas in five different colours with five different positions of the hand and fingers form the very frontispiece of the work. The curious mixture of Hinduism and Buddhism is exemplified in the picture of a female Buddhist divinity being worshipped Hanumān.

The following papers were read:—

1. *A new Copper-plate Inscription of Madanapāla, from Dinajpur.*—By N. N. VASU.
2. *On the antiquity and traditions of the Jāmi' Masjid and Rauza of Ḥaẓrat Maulānā 'Arab, at Sailkupa.*—By MAULAVĪ ABDUL WALI.
These papers will be published in the *Journal*, Part I.
3. *Notes on the Fauna of the Gilgit district (with exhibition of specimens).*—By CAPTAIN A. H. McMAHON, C.S.I., C.I.E., F.G.S., I.S.C.
The paper will be published in the *Journal*, Part II.
4. *On North Indian Folktales of the Rhea Sylvia and the Juniper Tree Types.*—By SARAT CHANDRA MITRA, M.A., B.L. Corresponding Member of the Anthropological Society of Bombay. Communicated by the Anthropological Secretary.
5. *On the legendary origin of the river Kūmrul and Belkākulē, etc., in the district of Jessore.*—By MAULAVĪ ABDUL WALI.
These papers will be published in the *Journal*, Part III.





PROCEEDINGS
OF THE
ASIATIC SOCIETY OF BENGAL,
FOR APRIL, 1899.

The Monthly General Meeting of the Asiatic Society of Bengal was held on Wednesday, the 5th April, 1899, at 9-15 P.M.

COLONEL T. H. HENDLEY, C.I.E., I.M.S., Vice-President, in the chair.

Twenty-five Members and six Visitors were present :—

The minutes of the last meeting were read and confirmed.

Twenty presentations were announced.

Lt.-Col. G. Manera, I.S.C., Mr. H. E. Kempthorne, and Major E. C. Hare, I.M.S., were balloted for and elected Ordinary Members :—

Rāi Rāmbrahma Sanyāl Bahādur, Superintendent of the Alipore Zoological Garden, and Paṇḍit Viṣṇu Prasād Rāj Bhāṇḍari, Chief Librarian of the Darbar Library, Nepal, were balloted for and elected Associate Members.

Rāi Rāmbrahma Sanyāl Bahādur is descended from one of the most respectable Vārendra Brāhmana families in the district of Murshidābād. His ancestors were the spiritual guides of the Rājās of Lālgotā in the same district. The Rāi Bahādur early in life evinced a spirit of activity in research which attracted the attention of Rāi Kānāi Lāl De Bahādur, who availed himself of his services in the compilation of his Bengali work on Chemistry. From a subordinate position on the staff of the Alipore Zoological Garden Rāi Rāmbrahma has risen to be its Superintendent, and his chief work, entitled "Treatment of Animals in Captivity in Lower Bengal," is the first of its kind, and has been described in the pages of "Nature" as a remarkable production. Rāi Rāmbrahma's scientific attainments have procured him the honour of election as Corresponding Member of the London Zoological Society, and it is to be hoped that our own Society will readily grant him a corresponding distinction here.

Pandit Viṣṇu Prasād Rāj Bhāṇḍari, Chief Librarian of the Durbar Library, Nepal, is descended from one of the Prime Ministers of the last Newar Kings of Bhātgāon. Since the fall of the Newar Kingdom his family has kept up its literary reputation. Viṣṇu Prasād is a good Sanskrit scholar, thoroughly well-versed in Tāntrik lore. Though not brought up in Western methods, he has a good idea of cataloguing, and has reduced the chaotic mass in which the library was thrown into order. He is always courteous and helpful to European explorers. Besides the knowledge of books Viṣṇu Prasād possesses a thorough knowledge of the manners and customs of the people of Nepal both in modern and in ancient times. He is a complete master of the changes of the social condition of the Nepalese people wrought by the Goorkha conquests.

Lieut.-Col. J. Scully, I.M.S., expressed a wish to withdraw from the Society.

The Secretary read the names of the following gentlemen who had been appointed to serve in the various Committees for the present year :—

FINANCE AND VISITING COMMITTEE.

Captain A. R. S. Anderson, I.M.S., Mr. W. K. Dodds, Mr. C. L. Griesbach, C.I.E., The Revd. H. B. Hyde, Mr. J. D. Nimmo, Mr. R. D. Oldham, Mr. A. Pedler, F.R.S.

LIBRARY COMMITTEE.

The Hon'ble Mr. Justice Gurudas Banerjee, Babu Gaurdas Bysack, Babu Pratap Chandra Ghosh, Mr. T. H. Holland, The Revd. H. B. Hyde, Dr. Ashutosh Mukerjee, Mahamahopadhyaya Nilmani Mukerjee Nyayalankara, Mr. A. Pedler, Dr. Mahendralal Sircar, C.I.E., Dr. G. Watt, C.I.E.

PHILOLOGICAL COMMITTEE.

Maulvi Abdus Salam, Maulvi Ahmad, Babu Gaurdas Bysack, Babu Pratap Chandra Ghosh, Dr. G. A. Grierson, C.I.E., Dr. Ashutosh Mukerjee, Mahamahopadhyaya Nilmani Mukerjee Nyayalankara, Mr. F. E. Pargiter, Captain D. C. Phillott, I.S.C., Pandit Satyavrata Samasrami, Dr. Mahendralal Sarkar, C.I.E., Dr. M. A. Stein, Mahamahopadhyaya Chandra Kanta Tarkalankara, Babu Nagendra Nath Vasu, Mr. A. Venis.

COINS COMMITTEE.

Mr. J. A. Bourdillon, Mr. L. W. King, Babu Panchanan Mukerjee, Mr. V. A. Smith, Mr. E. Thurston.

HISTORY AND ARCHÆOLOGICAL COMMITTEE.

Babu Gaurdas Bysack, Babu Pratap Chandra Ghosh, The Revd. H. B. Hyde, Pandit Mohanlal Visnupal Pandia, Dr. M. A. Stein, Mr. C. R. Wilson.

NATURAL HISTORY COMMITTEE.

Captain A. R. S. Anderson, I.M.S., Mr. J. F. Duthie, Mr. T. H. Holland, Mr. R. D. Oldham, Mr. A. Pedler, Major D. Prain, I.M.S., Mr. E. Thurston, Dr. G. Watt, C.I.E.

PHYSICAL SCIENCE COMMITTEE.

Captain A. R. S. Anderson, I. M. S., Mr. J. Eliot, C.I.E., Mr. T. H. Holland, The Revd. E. Lafont, C.I.E., Dr. Ashutosh Mukerjee, Mr. B. D. Oldham, Mr. A. Pedler, Dr. P. C. Roy, Dr. Mahendralal Sircar, C.I.E.

The Numismatic Reporter read reports on the finds of the following Treasure Trove Coins:—

I. REPORT ON 202 old Silver Coins forwarded by Collector of Darbhanga with his No. 575-G., dated $\frac{29^{\text{th}} \text{ July}}{1^{\text{st}} \text{ August}}$, 1896, and No. 935-G., dated 30th July, 1898.

The coins are stated to have been found by some persons while digging earth in village Malpur, Pargana Saraisa, District Darbhanga. They are Rupees of eleven Moghul Emperors, from Akbar down to Shāh 'Ālam II., the earliest date on these coins being the Ilāhi year 49 of Akbar's reign (=1603 A.D.), and the latest date the Hijri year 1175 (=1761 A.D.). They are mostly in an indifferent condition and belong to well-known types.

Their classification stands thus:—

(1)	AKBAR (963-1014 A.H. = 1556-1605 A.D.):			
	Aḥmadābād Mint, Ilāhi Rupee (round), year 49 ...	1	:	1
(2)	JAHĀNGIR (1014-1037 A. H. = 1605-1628 A.D.):			
	Rupees of different varieties, from the following			
	Mint-places:			
	Aḥmadābād, 1027 A.H.	1		
	Akbarnagar, regnal year 20, Ilāhi month			
	<i>Amarādā</i>	1		
	Lahore, 1035 A.H. (21 r. y.)	1		
	Qandahār, r. y. 9, Ilāhi month <i>Tr</i>			
	" " 10 " <i>Shahrēwar</i>			
	" " 11 " <i>Amarādā</i> and			
	" " " " <i>Farwardi</i> (sic!) 6			
	Tattah " 15 " <i>Mihr</i>			
	" " 22 " <i>Ardībihisht</i> ...	2	:	11

(3) SHĀHJAHĀN (1037-1068 A.H.=1628-1658 A.D.):

Rupees from the following Mints :

Ahmadābād (type : lettered surfaces)	1038 (1), 1041	2
Akbarnagar " "	1042 (4) ...	1
" (type : square areas)	1047 ...	1
Bhilsā " "	date obliterated	2
Lahore " "	6 (1043), 22,	
	24 (1060), 25 (1061)	5
Multān (type : one circular area)	1040 (3),	
	1042 (5) ...	2
Patna (type : lettered surfaces)	1041 (r. y. 4,	
	Ilāhi month <i>Day</i>)	1
" (type : square areas)	12, 13, 14 (1050),	
	15, 18, 23, 27, 29 ...	11
Qandahār " "	1049 (12) ...	1
Sūrat " "	1055 ...	1
" (type : lettered surfaces)	1038, 1040 ...	3
Tattah " "	r. y. 21 ...	1
Mint obliterated	... ..	12: 43

(4) AURANGZĒB (1068-1119 A. H.=1658-1707 A.D.):

Rupees from the following Mints :

Akbarnagar (with <i>mir-i-munir</i>)	r. y. 23, 24, 27,	
	29, 30, 31, 34, 36, 40, 41 ...	11
" (with <i>badr-i-munir</i>)	r. y. 45... ..	1
Aurangābād, 1074	... ..	1
'Azīmābād, 1118 (50)	... ..	2
Barēli 1103, (35)	... ..	1
Burhānpūr, date obliterated	... ..	2
Cināpatan, r. y. 39	... ..	1
Dāru-l- <i>khilāfah</i> Shāhjahānābād, 1100 (32), 1104		
(37), 1113 (45)	... ..	4
Dāru-s-salṭanah Lāhōr, 1092 (24), 1104 (37)	... ..	2
Etāwā, 1112 (44)	... ..	1
Golkondah, r. y. 5, 23	... ..	2
Jahāngirnagar, 1112 (44 and 45), 1114 (46 and		
47)	... ..	6
Jūnagarh, 1097 (29)	... ..	1
Katak, 1119 (51)	... ..	1
Machlipatan, 1111 (44)	... ..	1
Makḥṣūṣābād, 1116 (48)	... ..	1
Muḥammadābād, 1101 (33)	... ..	1
Multān, 1100 (32)	... ..	1

	Patna, 1095 (28), 1097 (29 and 30), 1105 (38), 1109 (41 and 42), 1113 (46), 1115 (47), 1116 (48 and 49)	14
	Sūrat, 1096 (29), 1097 (29), 1101 (34), 1102 (34), 1103 (35), 1109 (42), 1111 (44), 1117 (49) ...	15
	Tattah, r. y. 10, 20	2
	Mint uncertain (<i>sābhar</i> ?), 1100 (34) ...	1
	Mint obliterated	29 : 101
(5)	SHĀH 'ĀLAM I. BAHĀDUR (1119-1124 A. H.=1707- 1712 A. D.):	
	Rupees from the following Mints:	
	Akbarnagar, r. y. 2	1
	'Azīmābād, r. y. 1, 2 (1120), 4 (1122), 5 (1123) ...	5
	„ a half-rupee (weight 79 gr.), with regnal year 1	1
	Lakhnau, r. y. 3	1
	Murshidābād, r. y. 1	3
	Mint obliterated	2 : 13
(6)	JAHĀNDĀR SHĀH (1124 A. H.=1712 A. D.):	
	Rupee from Mint Dārul-khilāfah Shāhjahānābād, 1124 (1)	1 : 1
(7)	FARRUKHSIYAR (1124-1131 A. H.=1713-1719 A. D.):	
	Rupees from the following Mints:	
	'Azīmābād, r. y. 2	2
	„ (with <i>mustaqarru-l-mulk</i>) r. y. 4, (1127), 5, 6, 8 (1131)	7
	Cināpatan, r. y. 3, 7	2
	Dāru-l-khilāfah Shāhjahānābād 1127 (4) ...	1
	Etāwā, r. y. 2	1
	Sūrat, r. y. 1, 7	2
	Mint obliterated	3 : 18
(8)	RAFĪ'U-D-DARAJĀT (1131 A. H. = 1719 A. D.):	
	Rupees from Mint Patna, 1131 (<i>sanah aḥad</i>) ...	2 2
(9)	RAFĪ'U-D-DAULAH, SHĀHJAHĀN II. (1131 A. H. = 1719 A. D.):	
	Rupee from Mint Lucknow, 1131 (<i>sanah aḥad</i>) ...	1 1
(10)	MUḤAMMAD SHĀH (1131-1161 A. H. = 1719- 1748 A. D.):	
	Rupees from the following Mints:	
	'Azīmābād, r. y. 2 (1132), 3 (1134), 20 (1150) ...	7
	Etāwā, r. y. 2	1
	Kōrā, r. y. 3	1
	Murshidābād, r. y. 1 (<i>sanah aḥad</i>)	1 : 10

(11) <u>SHAH</u> 'ĀLAM II. (1173-1221 A. H. = 1759-1806 A. D.):				
Rupee from Mint Patna, 1175 (3)	...	...	1:	1
				202
		Grand Total	...	202

II. REPORT ON 13 old Silver Coins, forwarded by the Assistant Commissioner and Collector, Ajmere, with his No. 5146, dated 1st October, 1898.

The coins were found under a banyan tree on the road from the city of Ajmere to the old fortress of Taragarh, on the 21st March, 1898. One coin is broken into two pieces, another one is only a fragment, the rest is complete. They are:—

(1). Coins of <i>Sōmaladēva</i> (date unknown); type as in Cunningham, Coins of Mediæval India, p. 53, and Plate VI, No. 10	...	...	3
(2). Coins of Rahtor King <i>Ajayacandra</i> of Kanauj, (date 1165-1193 A. D.); type as in Cunningham, l. c. p. 87 and Plate IX, No. 17	...	...	9
		Total	12

III. REPORT ON 13 old Silver Coins, forwarded by Deputy Commissioner of Lahore, with his No. 4863, dated 25th October, 1898.

The coins are stated to have been found at Khankah Manu Shah in Chunian Khas. Three of them, however, are modern forgeries of square Akbar Rupees, with *Kalimah* on obv. The rest belongs to the following classes:—

(1). Rupees of <u>AKBAR</u> (1556-1605 A. D.):				
From Multān Mint, round, Ilāhi year 44, month <i>Ardībihisht</i>	...	...	1	
„ Urdū-i-Zafar-qarīn Mint, square, with <i>Kalimah</i> on obv., year 1000 (<i>alif</i>)	...	...	1	
„ Tattah Mint, square, Ilāhi year 45, month <i>Ardībihisht</i>	...	...	1	3
(2). Rupees of <u>JAHĀNGĪR</u> (1605-1628 A. D.):				
From Burhānpūr Mint, round, with <i>Kalimah</i> on obv., date illegible	...	...	1	
„ Jālandhar Mint, same type, date illegible	...	...	1	
„ Tattah Mint, same type, dates 1016 and 1017	...	...	2	
„ Mint illegible	...	...	3	7
		Total	...	10

IV. REPORT ON 13 old Silver Coins forwarded by the Collector of Shahabad, with his No. 2689-G., dated 12th November, 1898.

The coins are Rupees of the Sūri Kings Shēr Shāh and Islām Shāh, generally in good preservation. Nothing is known as to locality and time of the find. Their classification stands thus :—

(1) SHĒR SHĀH (947-952 A. H. = 1540-1545 A. D.):

Rupees from the following Mints :

Gwalior, square areas, date 949	...	...	1
Jahānpanāh, circular areas, date 949	...	...	2
<u>Shērgarh</u> , square areas, date 945	...	...	1
" " within double-lined border,			
date 949	...	...	1
No Mint, circular areas, dates 948, 950, 951	...	...	5
" square areas, dates 947, 951	...	...	2 12
(2) <u>ISLĀM SHĀH</u> (952-960 A. H. = 1545-1552 A.D.):			
Rupee from <u>Sharifābād</u> Mint, circular areas, within			
double-lined border, date 953	...	...	1 1
			<hr/>
Total	...	...	13

V. REPORT ON 18 gold coins forwarded by the Deputy Commissioner of Gujranwala, with his No. 2536, dated 12th December, 1898.

Nothing is known as to locality and time of the find.

The coins are debased gold coins of the Kidāra or Little Kuṣāṇa kings; date 5th century A. D.

Their *obv.* shows the figure of the king, facing left; under king's l. arm in Nāgari characters *ki-da* or *ki-da-ra*; behind traces of *ka-ṣa* [*ṣa*]; under king's r. arm some letters read *ka-pha-na* by General Cunningham. This, however, remains extremely doubtful.

Rev. shows figure of a seated goddess (*Ardokhro*) with cornucopie in her left hand. Only slight traces of a legend are visible.

VI. REPORT ON 81 and 6 old Silver Coins forwarded by the Collector of Monghyr, with his Nos. 3328-R. and 3329-R., dated 27th January, 1899.

The coins belong to two separate treasure troves, the larger of which, consisting of 81 coins, is reported to have been made on the bank of the river Khel at Bhalui, Police Station Sikandra, Sub-Division Jamui, while the remaining 6 coins were found in a Pyne of Taluka Anantpur, Police Station Jamui. They belong to various Sultans of Delhi and Bengal, as also to the Sūri Kings, Shēr Shāh, Islām Shāh and Muḥammad 'Ādil Shāh, and to the Moghul Emperor Akbar.

With the exception of a square *Kalimah* Rupee of Akbar, dated in the Hijra year 1001 (written in words: *alif aḥad*), they belong to well-known types, and do not show any new varieties. Their preservation is on the whole good. The coins may be thus classified:—

- | | | | |
|---|-----|-----|------|
| (1) NAṢIRU-D-DĪN MAḤMŪD SHĀH of Delhi (1246-1265 A. D.): | | | |
| Usual type, Mint and date gone | ... | ... | 6 6 |
| (2) SHĒB SHĀH SŪRĪ (1540-1545 A. D.): | | | |
| Rupees from the following Mint places:— | | | |
| Gwalior, square areas, with dates 950 and 951 | ... | ... | 2 |
| Ḥiṣār, circular areas, date 949 | ... | ... | 1 |
| Sharifābād, circular areas, within double-lined border, date 949 | ... | ... | 1 |
| No Mint, square areas, with date 948 | ... | ... | 3 |
| „ circular areas, with date 949 | ... | ... | 5 12 |
| (3) ISLĀM SHĀH SŪRĪ (1545-1552 A. D.): | | | |
| Rupees from the following Mint places:— | | | |
| Agra, square areas, with date 956 | ... | ... | 2 |
| Gwalior „ with date 957 | ... | ... | 1 |
| No Mint, square areas, with dates 955, 956, 957, 959, 960 | ... | ... | 9 12 |
| (4) MUḤAMMAD SHĀH ‘ĀDIL (1552-1554 A. D.): | | | |
| Usual type, no Mint and date | ... | ... | 2 2 |
| (5) ḠHIYĀṢU-D-DĪN BAHĀDUR SHĀH of Bengal (1554-1560 A. D.): | | | |
| Usual type, no Mint and date | ... | ... | 1 1 |
| (6) ḠHIYĀṢU-D-DĪN JALĀL SHĀH of Bengal (1560-1563 A. D.): | | | |
| Usual type, no Mint and date | ... | ... | 1 1 |
| (7) DĀŪD SHĀH KARRARĀNĪ (1572-1576 A. D.): | | | |
| Usual type, no Mint and date | ... | ... | 2 2 |
| (8) MOGHUL EMPEROR AKBAR (1556-1605 A. D.): | | | |
| Rupees from the following Mint-places: | | | |
| Aḥmadābād, square, with Ilāhī year (uncertain) | ... | ... | 1 |
| Aḥmadnagar (styled <i>dāru-l-amān</i>), round, with <i>kalimah</i> on obv., date 980 | ... | ... | 1 |
| Akbarnagar, round, with Ilāhī year 50, month <i>Tīr</i> | ... | ... | 1 |
| Bairātah, round, with Ilāhī years, 44 on one, months: <i>Farwardī, Khurdād, Tīr</i> | ... | ... | 3 |
| Burhānpūr, round, Ilāhī year 49, month <i>Day</i> | ... | ... | 1 |
| Jaunpūr, round, with <i>Kalimah</i> on obv., years 983, 985 | ... | ... | 2 |
| Lahore: full Rupees, round, with Ilāhī year 42, month <i>Tīr</i> | ... | ... | 1 |
| „ half Rupees, round, with Ilāhī year 45, month <i>Ābān</i> , 48, <i>Day</i> | ... | ... | 2 |

Patna: full Rupees, with Ilāhi years 40 and 43, <i>Khurdād</i> (square); 48, <i>Iṣfandārmiz</i> (square); 49, <i>Arābihishht</i> (one square and one round), two (square) of uncertain date 7	
„ half Rupees, round, with Ilāhi years 45 <i>Farwardīn</i> , 46 <i>Shahrēwar</i> , 48 and 49 <i>Amardād</i> ... 4	
Urdū-i-Zafar-qarin: square, with <i>Kalimah</i> on obv., year 1000 (<i>alif</i>):	
Full Rupee 1	
Half Rupees 2	
Ilāhābād: late imitation, no date 1	
No Mint: square Rupees with <i>Kalimah</i> on obv., and years 977, 986, 987, 988, 989, 991, 992, 997, 998,	
1001 (in words ^{الف} _{احد}) 13	
No Mint: square, half Rupees with years 990 and 994 2	
„ round <i>Kalimah</i> Rupees, with years 979, 980, 984, 985, 989 8	
„ half Rupee, square, with Ilāhi year 42 ... 1 51	
Grand Total	87

Major A. Alcock, I.M.S., exhibited some models of deep sea fishes, Mr. F. Finn exhibited a pair of albino Blue-winged Teal (*Querquedula circia*) and an albino Snipe (*Gallinago coelestis*) and made remarks on them.

The following papers were read:—

1. *On Time in India: a suggestion for its improvement.*—By R. D. OLDHAM, F.G.S., Superintendent, Geological Survey of India.

In his anniversary address our President reminded us that the magnificent collections and additions to the knowledge of the deep-sea Fauna of the Indian seas, which have been made through the agency of the Indian Marine Survey, are due to the initiative of this Society. To-night I desire to lay before you a proposition that we shall once more take the initiative, this time in introducing a far reaching but attainable reform, I mean the universal adoption of a standard time in India, and the abolition of the present barbarous arrangement, unworthy of a country pretending to civilisation, by which every place keeps its own time.

In former days, when means of communication were slow and difficult, and there was no means of maintaining a standard time, it was natural that each place should adopt its own local time, usually obtained from a

sun dial, as often as not constructed for a different latitude and inaccurately adjusted to the meridian. Now that the whole country has been opened up by railways and telegraphs, and travel is not only easy but largely indulged in, the system has become anomalous by which a traveller from one town to another, who wishes to keep an appointment in the town he has come to, must first find out how many minutes the local time is fast or slow of that which he has brought with him, and must then either work out a sum in arithmetic or alter his watch.

To a certain extent a standard time has been adopted in India, for the railways universally use Madras mean time. This is also adopted by the Telegraph Department, but the effect is nullified by the printing, in the Official Telegraph Guide, of a table, covering 44 pages, which gives the number of minutes that the local time is fast or slow of Madras time. The result is a direct encouragement to the maintenance of the present inconvenient and antiquated system, and a hindrance to the adoption of a more rational one.

Some years ago an attempt was made to introduce Madras time as the standard for ordinary use in Bombay, but it met with so much opposition that it had to be abandoned. This opposition, though logically unjustifiable, was based on motives ingrained in human nature. The Bombay office man, told to come to office at half-past nine, instead of ten, felt himself defrauded of half an hour's leisure, just as the Calcutta office man would feel it a grievance if he was told to stop till half-past five, instead of being allowed to depart at five, and this though each gained at one end what he lost at the other. So too through all the arrangements of domestic life a nominal change of time would at first produce a feeling of strangeness, which would, however, soon wear off and the change would be recognised as purely nominal, not real.

A more potent cause of resistance to the general adoption of the present standard time lies in the fact that it is Madras time. The citizen of Bombay, proud of being '*primus in Indis*' and of Calcutta, equally proud of his city being the Capital of India, and—for a part of the year—the Seat of the Supreme Government, alike look down on Madras, and refuse to change the time they are using for that of what they regard as a benighted Presidency; while Madras, having for long given the standard time to the rest of India, would resist the adoption of any other Indian standard in its place.

All these local jealousies would disappear if the standard adopted was that of Greenwich, which is not only the prime meridian for nearly the whole of the civilised world, but gives the standard time to the greater part of four continents.

The adoption of a single standard for all India, whatever it might be,

would, however, cause some inconvenience on account of the extent of the Empire from east to west. Extending over more than 30° of longitude the difference between local and standard time would, at some places, exceed an hour, and though a small difference between the nominal and real time of a place is of no importance, it becomes a source of inconvenience when the difference is great.

This difficulty can be simply and effectually met by adopting the system, in use throughout Europe and North America, of what are known as hour-zones. On this system the land is divided into belts running north and south, each 15° of longitude in width, and over each belt the same time is used, while in the belts to the east and west a change of a whole hour forwards or backwards is made. The standard adopted is Greenwich mean time, and wherever the system has been adopted all watches and clocks show the same minute, the only difference being in the hour.

But, as a strict adherence to this system would lead to practical inconvenience, since it would be constantly necessary to consult a map to find the exact longitude of a place, a compromise has been adopted, and the boundaries of the hour-zones are made to follow the principal political boundaries. In Europe, for instance, three times are recognised; East European time, exactly two hours fast of Greenwich, Mid European, one hour fast of Greenwich, and West European, or Greenwich time. Mid-European time is used by Italy, Switzerland, Austria, Germany, Holland, Denmark and Norway and Sweden. Throughout these countries the traveller has no trouble about time, his watch needs no alteration, nor has he to do any sums of addition or subtraction. If he goes east of these countries the only change he has to remember is one of exactly an hour fast, a correction which can be easily remembered and automatically made without any proficiency in mental arithmetic. If he goes westwards, to England, he has only to make a similar correction of an entire hour, but in the opposite direction, to obtain Greenwich time.

In France this has not yet been adopted as the standard, and a change of some minutes is necessary, just as when going from one place to another in India; France is, however, in advance of us, in so far that there is only one standard time in use throughout the country and its African colonies.

In India a similar system of hour-zones could be adopted, the lines of division following the boundaries of the principal administrative divisions, as is done in the United States, Canada and Russia, but as regards the standard to be used there are three courses open. First, to retain Madras time, secondly to adopt a standard of $5\frac{1}{2}$ hours in advance of Greenwich, or thirdly to adopt the even hour time zone system.

The first of these, Madras time, is not likely to be universally adopted,

and for the second the only recommendation is that it would involve a change of only 9 minutes from the standard at present in use on the Indian railways. But if a change is to be made it is immaterial whether it is one of 9 or 21 minutes, each would be equally inconvenient at first, and the slight feeling of inconvenience would pass off as rapidly in the one case as in the other.

Against the adoption of either of these two standards, is to be placed the fact that the Indian railway system must inevitably become linked up, as has already happened to the telegraph system, with the railways of Europe and Western Asia on the one hand, and of the far East on the other. In the first of these Greenwich time is already the standard, and on the other it will probably be adopted. There would then be a change of a fraction of an hour, or of some odd number of minutes, at the junction, instead of the much simpler change of a whole hour, or perhaps no change at all.

Another objection to the adoption of either Madras time, or $5\frac{1}{2}$ hours fast of Greenwich, as the standard is that if combined with the hour zone system it would necessitate three separate times in India. A central time would be used by Bengal, Madras, Central Provinces, North-West Provinces, Central India, Rajputana and probably, for convenience, Bombay, exclusive of Sind; western time, one hour slow of Central, would be used by the Punjab, Sind and Baluchistan; while eastern time, one hour fast of Central, would be used in Assam and Burma.

If, on the other hand, the hour-zone system be adopted in its completeness, using Greenwich as the starting-point, we would only have two times in India, an Eastern time, exactly 6 hours fast of Greenwich, used by Bengal, Assam and Burma, and a Western time, exactly 5 hours fast of Greenwich, used by the rest of India. Once this system was adopted the traveller in either group of provinces or presidencies would find the same time in use everywhere, and when he crossed the boundary he would but have to remember that the time was an even hour fast or slow of that he was carrying with him. At first it might seem strange to find that the mail train from Calcutta took only half an hour to travel from Buxar to Moghal Sarai, while it took, or appeared to take, two hours and a half to travel in the opposite direction, but the experience of America and Europe has shown that no real difficulty arises from this change of an even hour at certain defined places, and that people readily adapt themselves to it, more readily indeed than to the daily change of time at sea or to that immense improvement, the twenty-four hour system of reckoning time.

To understand what the adoption of the system would mean in practice, let us take the case of Calcutta. In the first place we should have to put our watches back 6 minutes, and there the sum and total of all that can be

considered as a drawback ends. On the other hand we should no longer have the clock outside the General Post Office pointing to one time, and that on the Howrah platform pointing to another. The traveller would no longer have to make an intricate calculation to find out at what time (local) he would have to leave his house to catch a train which departs at another time (Madras). If he set sail for Burma, or went up the river to Assam he would not need, on arrival at his destination, to make anxious enquiries as to the time in use there, for it would be exactly the same as what his watch showed; and if he travelled in the other direction to Madras, Bombay or Delhi, he would only have to remember that the time there was exactly an hour slow of his watch.

The benefit would by no means be confined to travellers. The merchant in his office, receiving a telegram from London, would know by a glance at his watch, exactly 6 hours fast of Greenwich, how long the telegram had taken in transit. If it were from Berlin or Rome the difference in time would be five; if from New York, ten hours. The shipmaster in the Hooghly, seeing the time-ball drop, would know that it was exactly 7 A. M. by Greenwich time, and determine the error of his chronometer at a glance, and without any need for calculation. And so in every branch of commercial or social intercourse, where time has to be considered, the advantages of the adoption of standard time would be encountered at every turn.

If this is true of the ordinary intercourse of man with man, it is especially true in all scientific investigations where the comparison of time observations at different places is required. I have myself recently had to deal with a mass of time records referring to the earthquake of 1897, and found that a large number had to be rejected because it was impossible to ascertain what standard of time had been used, while in many others it was only after a large mass of calculations had been gone through that the relation of observations, from different places, to each other could be determined.

This is an aspect of the question with which this Society is as much concerned as with the general advantages of the adoption of a standard time. It is for this reason that I have drawn up this note for the consideration of the Society, and propose that we should memorialise the Government of India to adopt a standard time for universal use in India. The standard actually adopted is comparatively an immaterial point but, as pointed out above, the balance of advantages lies with Greenwich, as opposed to any local Indian time.

The means for bringing the standard adopted into general use could be very simple. In India, as elsewhere, the initiative would have to come from the State, and the first step to be taken would be to discontinue the table, occupying 44 pages of print, in the official Telegraph Guide which

shows the difference between standard and local time. This would cost nothing, it would be a slight saving of expense, and of itself would soon lead to standard time being adopted everywhere except in the Presidency towns, for, when local time could no longer be obtained from the telegraph offices, standard time would soon come into general use.

In the Presidency towns there are local observatories which give a daily time signal, and indirectly control the time in general use. These time signals should be converted to Greenwich time, a change which would be to the advantage of the shipmasters for whose benefit they are primarily intended. Added to this the standard time should be used in all Government offices and shown by all clerks directly controlled by Government.

If this were done the experience of other countries has shown that the general public would soon come to adopt the standard time, and, having once appreciated its advantages, would soon wonder how they had so long endured the old system.

APPENDIX.

List of Countries, Colonies and Dependencies in which Greenwich time has been adopted as the standard civil time. Taken from Prof. Milne's table of civil times, printed in the *Geographical Journal*, February, 1899.

Austria, 1 h. F.	Malta, 1 h. F.
Bechuanaland, 1½ h. F.	Natal, 2 h. F.
Belgium, G. M. T.	New South Wales, 10 h. F.
Bosnia, 1 h. F.	Norway, 1 h. F.
Bulgaria, 2 h. F.	Orange Free State, 1½ h. F.
Canada,* 4 h. to 8 h. S.	Pescadores, 9 h. F.
Cape Colony, 1¼ h. F.	Queensland, 10 h. F.
Congo Free State, 1 h. F.	Rhodesia, 1½ h. F.
Denmark, 1 h. F.	Romania, 2 h. F.
German Empire, 1 h. F.	South Australia, 9 h. F.
Herzegovina, 1 h. F.	Sweden, 1 h. F.
Hungary, 1 h. F.	Switzerland, 1 h. F.
Italy, 1 h. F.	Tasmania, 10 h. F.
Japan, 9 h. F.	Transvaal, 1½ h. F.
Korea, 9 h. F.	Turkey, 2 h. F.

- * 1. *Intercolonial time*, Nova Scotia, Prince Edward's Island, 4 h. S.
- 2. *Eastern time*, New Brunswick, Montreal, Ontario, 5 h. S.
- 3. *Central time*, Manitoba, Kenatin, 6 h. S.
- 4. *Mountain time*, Gaskatchewan, Assiniboia, Alberta, Athabasca, 7 h. S.
- 5. *Pacific time*, British Columbia, 8 h. S.

United States,* 5 h. to 8 h. S. West Australia, 9 h. F.
Victoria, 10 h. F. Zululand, 2 h. F.

Mr. T. H. Holland proposed :—

“That Mr. Oldham’s paper as read at the meeting should be laid before the Council for any further action that they consider necessary.”

The proposal was seconded by Major D. Prain, I.M.S., and carried by eighteen votes against one.

2. *Muḥammad Shāh* (1719-1748), *Couplet on Coins.*—By W. IRVINE, I.C.S. (retired).

In his article on “Couplets on Coins of kings after the time of Jahāngir,” *Journal*, Vol. LVII (1888), Part I, p. 29, the late Mr. C. J. Rodgers gives a coin from the Sūrat mint with the couplet :—

سکه زد در جهان بلطف اله بادشاه زمان محمد شاه

“The King of the Age, Muḥammad Shāh,
“Struck coin in the world by God’s grace.”

Having prefaced his remarks by saying “Muḥammad Shāh never used any couplets,” he adds, after mentioning the existence of the above coin, “I do not think this is a coin of Muḥammad Shāh, but of some rebel king. The style is not that of Muḥammad Shāh.”

This type of Muḥammad Shāh’s coinage must be excessively rare ; for it is not mentioned in the British Museum, the Indian Museum, or the Lahore catalogue. But Mr. Rodgers was surely somewhat rash in rejecting it as not one of Muḥammad Shāh’s coins. I am certain that, if he had seen a passage in the *Mirāt-i-Aḥmadi*, a history of Gujarāt, he would have admitted the coin to be one issued, for a short time at any rate, in that particular reign. Apparently it was produced at the one mint of Sūrat (in *ṣūbah* Gujarāt), and even there was almost immediately suppressed.

The *Mirāt-i-Aḥmadi*, B. Museum, Add. MSS. No. 6580, fol. 167b. referring to the accession of Muḥammad Shāh states that a *Hasbu-l-ḥukm* [a formal communication issued by the *wazīr*, and so named from its opening words “According to the order”] came to Nāhar Kbhān,

* 1. *Eastern time*; Maine, New Hampshire, Vermont, Massachusetts, Connecticut, New York, Rhode Island, New Jersey, Pennsylvania, Maryland, Virginia, N. Carolina, S. Carolina, Georgia, Florida; 5 h. S.

2. *Central time*, Minnisota, Wisconsin, Michigan, Iowa, Illinois, Indiana, Ohio, Missouri, Kentucky, Tennessee, Arkansas, Mississippi, Alabama, Louisiana; 6 h. S.

3. *Mountain time*; Montana, Dakota, Wyoming, Nebraska, Utah, Colorado, Kansas, Arizona, New Mexico, Texas; 7 h. S.

4. *Pacific time*, Washington, Oregon, Idaho, Nevada, California; 8 h. S.

the *dīwān* of the province, informing him that Muḥammad Roṣhan Akhtar having succeeded to the throne had adopted the title of Muḥammad Shāh; that all appointments in force were confirmed, and all allowances, namely, assignments (*jāgīrs*), daily allowances (*yaumiyah*), and grants for support (*madad-i-ma'āsh*) were continued. Thereupon, Mihr 'Ali Khān, the deputy governor, Rūḥullāh Khān, the deputy *dīwān*, and all the other officials having assembled, the accession was proclaimed by beat of drum, the royal prayer (*Khuṭbah*) was recited, and coin was issued with the inscription [corresponding to the couplet already given above from Mr. Rodgers' article]. But after this the inscription on the coin was altered to *sikkah-i-mubārak-i-Muḥammad Shāh Bādshāh-i-ghāzi* [that is, to the prevalent form for the coin of his reign].

3. *Jangnāmah of Farrukhsiyar and Jahāndār Shāh, a Hindī poem by Ḥrīdhar (Murlīdhar), a Brahman of Prāg.—By W. IRVINE, I.C.S., (retired).*

4. *Gōpīnāthapura Inscription of the time of Kapilēndra Dēva.—By M. M. CHAKRAVARTTI.*

5. *Gayā Inscription of the time of Nayapāla Dēva.—By M. M. CHAKRAVARTTI.*

These papers will be published in the *Journal*, Part I.

6. *The Suvarṇa, or original gold coin of Ancient India (with exhibition of specimens).—By W. HOEY, D. Litt.*

Some years ago I received from two old sites in the Gorakhpur District at different times what at first sight appeared to me to be gold earrings of a type similar to the rhinoceros-horn rings worn by Kānpata Jogis, but on second consideration I saw that they could not have been worn as earrings because they could not be closed. I kept them and waited for an explanation of their use.

While reading the late General Cunningham's lucubrations on the system of weights, measures, coins and values of money, in which he seeks to establish a connection between the Indian and the Persian and other systems further west, I noticed that the *niska*, which would seem to be the same as the *suvarṇa*, was also an ornament, and the thought occurred to me that in an age when gold and silver are not coined and pass merely at bullion value, it is highly probable that the pledging and sale of ornaments may have suggested the convenience of making up gold in pieces easily handled and of approximately equal size: but still knowing that my specimens, whatever they might be, were not of exactly equal weight, and did not correspond to any one weight noted

by General Cunningham, I was uncertain whether I should publish a note on them or not. I have recently made some observations which induce me to exhibit them to this Society.

I noticed about eighteen months ago, that the wife of a Gurkha Subahdur was wearing gold ornaments in her ear which in general idea corresponded to the flat gold rings or discs which I possessed, and I afterwards learned that these ornaments were called *Sun*, the word for gold, and the Gurkhas have no name for earring save *Sun*. This led me to think that the *suvarṇa* is the *Sun* adapted for currency purposes : and I now submit a *Sun* with the old gold discs which I venture to call *suvarṇas*.

Some months ago a Siamese traveller showed me specimens of ancient coins of his country and I observed that some of them resembled a horse shoe in general shape, but with the ends tapering to a point, being round instead of flat throughout and thickest at the middle. These did not all close up as much as a horse shoe. This form of coin reminded me that I had found many years ago a curious crescent shaped piece of metal at Set Mahet, which might be a coin, and while looking for its connection with ornaments I observed that the Gurkhas call the crescent shaped gold ornament worn in the ears sometimes a *Manipurī Sun* to distinguish it from their own earring which they simply call *Sun*. The theory which I venture to propound is that the *suvarṇa*, *niṣka*, or *karṣa*, was nothing more at first than a piece of gold made up resembling an earring, and of an approximate uniform size or weight, fashioned so as to facilitate handling. The raised rim round the circular hole and round the outer edge of the piece is to prevent it from slipping while it becomes easily drawn by the extended figures when counted or weighed.

It may be an error to imagine that gold coins were cut or stamped to uniform weight. We have the punch-marked silver coins of ancient India which must have been passed by weight in barter for commodities : and what I think is that these beautiful yellow gold discs or rings were in circulation at the same period with the punchmarked coins.

7. *On the origin of the Chākḥai Musalmāns.*—By MAULAVI 'ABDUL WALI.

The paper will be published in the *Journal*, Part III.

8. *Materials for a Carcinological Fauna of India. No. 4. Part II. The Brachyura Cyclometopa, with an Account of Three of the Constituent Families, namely, the Portunidæ, Cancridæ and Corystidæ.*—By A. ALCOCK, I.M.S., Superintendent of the Indian Museum.

The paper will be published in the *Journal*, Part II.

PROCEEDINGS
OF THE
ASIATIC SOCIETY OF BENGAL,
FOR MAY, 1899.

The Monthly General Meeting of the Asiatic Society of Bengal, was held on Wednesday, the 3rd May, 1899, at 9-15 P.M.

R. D. OLDHAM, Esq., F.G.S., in the chair.

The following members were present:—

Major A. Alcock, I.M.S., Mr. J. Bathgate, Dr. T. Bloch, Mr. F. Finn, Major C. R. M. Green, I.M.S., The Revd. H. B. Hyde, Mr. H. E. Kempthorne, Mr. T. H. D. La Touche, Mr. J. Mann, Mr. C. S. Middlemiss, Babu Pauchanan Mukerjee, Mr. J. D. Nimmo, Mr. F. E. Pargiter, Major D. Prain, I.M.S., Rai Ram Brahma Sanyal Bahadur, Mr. M. J. Seth, Mahamahopadhyaya Haraprarad Shastri, Mr. H. A. Stark, Mr. A. Tocher, Mr. E. Thornton, Babu Nagendra Nath Vasu.

Visitors:—Mr. P. E. Cameron, Mr. H. T. Fulton, Mr. T. H. Smith, Mr. G. H. Turton, Mr. T. L. Walker.

The minutes of the last meeting were read and confirmed.

Thirty-two presentations were announced.

Mr. Chas. A. Silberrad was balloted for and elected an Ordinary Member.

The Revd. H. Whitehead expressed a wish to withdraw from the Society.

The Secretary reported the death of Sir Monier Monier-Williams, Knt., K.C.I.E., an Honorary Centenary Member of the Society.

Mr. F. Finn exhibited a boar's skull showing malformation by over-growth of a lower canine, and made the following remarks on it:—

The boar's skull exhibited to-night, showing the right lower canine curved into a semi-circle, was presented to the Indian Museum last month by Dr. Kars Zorab, who writes concerning it:—

“I procured the skull while out shooting in the North Bhagalpur District. The animal was very old and had several scars on its body, but there was no outward mark over the spot where the lower jaw is injured. I think the same blow that broke the tusk of the upper jaw is the cause of the curious bony growth. The abnormally developed tusk had grown right through the cheek; the wound thus made was quite healed. The animal was killed last February.”

Rai Ram Brahma Saunyal Bahadur exhibited a living sea-snake and living hybrids between guinea-fowl and common fowls, and made remarks on them.

Mahamahopadhyaya Haraprasad Shastri exhibited some buddhistic religious objects from Nepal, and made remarks on them.

The following papers were read :—

1. *On the genuineness of the grant of Çivasinha to Vidyāpati-shakkura.*—By G. A. GRIERSON, C.I.E., PH.D., I.C.S.

The paper will be published in the *Journal*, Part I.

2. *On the identification of Kusināra, Vaisāli and other places mentioned by the Chinese pilgrims.*—By W. HOEY, LITT. D., I.C.S.

ABSTRACT.

I take up the route of Fa Hian after he left Kanauj and I show that the forest of A-li is probably the modern pargana of Asiwan: that the country of the Shachi and its capital lay near the Gogra and that the capital, Pi-so-kiā is probably Paska. I adhere to Set Mahet as Sravasti and then coming up to the north of the Lumbini garden I place the city of Kapilavastu at or near Çaina-Maina, and indicate the probable location of Krakuchandakula and Kanakamuni's town, but I do not desire to anticipate Major Waddell.

I then show that Vaisāli is at Cherānd, and Kusināra at Sewān. Mānghi is where Buddha left the Lichhavis. Kasia is the place where Buddha performed the Renunciation and assumed the Kaṣāya garment of the mendicant. I make suggestions as to Rāmagrāma and the stupa known as that of Rāmagrāma; also as to the Charcoal stupa.

I show that Besarh is the city of the monster Fish and I explain why Asoka placed pillars at Kesaria and Ararāj.

Coming back to Kanauj I proceed with Hwen Tshang down the Ganges and offer a suggestion to help in fixing 'O-yu-t'ō and 'O-ye-mu-k'ia the latter being placed at Asui. I reaffirm Kosambi as in the neighbourhood of Kosam.

Coming along the Ganges from Benares I dispose of the identification of Ghazipur as 'Cheu-chu' and I show where the monastery of the 'Unpierced Ears' was—at Waina—in the Ballia District. In this connection I mention Sikandarpur on the southern bank of the Gogra river and, referring to the Rahila palace close to this most ancient spot, I point out that relatively to Sewan (as Kusināra) and Benares it fits in with the place where the pious Brahman entertained Buddha's son long ages after the Great Teacher had himself died.

The paper will be published in full in the *Journal*, Part I.

3. *On a curious system of tree-worship in Bengal.*—By MAHAMAHOPADHYAYA HARAPRASAD SHASTRI, M.A.

The paper will be published in the *Journal*, Part III.

8
I





PROCEEDINGS
OF THE
ASIATIC SOCIETY OF BENGAL,
FOR JUNE, 1899.

The Monthly General Meeting of the Asiatic Society of Bengal was held on Wednesday, the 7th June, 1899, at 9-15 P.M.

T. H. HOLLAND, Esq., F.G.S., in the chair.

The following members were present :—

Major A. Alcock, I.M.S., Mr. J. Bathgate, Dr. T. Bloch, Mr. F. Finn, Mr. T. H. D. La Touche, Mr. W. A. Lee, Mr. C. Little, Kumar Rameshwar Maliah, Mr. R. D. Mehta, C.I.E., Mr. J. D. Nimmo, Mr. F. E. Pargiter, Rai Ram Brahma Sanyal Bahadur, Mr. M. J. Seth, Mr. E. Thornton, Mr. A. Tocher, Mr. J. Wyness.

Visitor :—Mr. T. L. Walker.

The minutes of the last meeting were read and confirmed.

Fifty-two presentations were announced.

Mr. P. H. O'Brien, I.C.S.; Babu Sris Chandra Basu, Munsiff, Benares; Babu Chandra Kumar Sarkar, Assistant Engineer, Sewerage and Water Works, Sonarpura, Benares City; Babu Purnendu Narayan Sinha, Zemindar of Bankipur; and Maulavi M. Ibrahim, B.A., Assistant Inspector of Schools, Chinsurah, were balloted for and elected Ordinary Members.

Mr. A. Hogg, expressed a wish to withdraw from the Society.

The SECRETARY reported the death of Babu Gaurdas Bysack, a Life Member of the Society.

The proposed alterations in the Society's Rules of which intimation has already been given by circular to all resident members in accordance with Rule 64A were brought up for discussion previous to further circulation under Rule 64c.

The Secretary explained that the proposed revision involved no radical alterations of Rule but would merely legalize the current usages of the Society which had become slightly modified in certain particulars since the present rules were published in 1876.

Mr. C. Little proposed :—

“That the question of change of rules be postponed till the cold weather when the senior officers of the Society are likely to be present in Calcutta, and be in position to advise the Society in so important a matter as a change of rules.”

The proposal was seconded by Mr. R. D. Mehta, C.I.E.

Major A. Alcock, I.M.S., proposed as an amendment :—

“That the rules be reprinted with the proposed alterations of the Sub-Committee appointed by the Council of the Society.”

Mr. J. Bathgate seconded the amendment.

The Resolution and amendment were put to vote and lost.

Mr. T. H. D. La Touche proposed :—

“That the rules as printed in the form submitted to the members for discussion should be provisionally approved of by this meeting on the understanding that they should be brought before a subsequent meeting of the Society for final disposal.”

The proposal was seconded by Mr. W. A. Lee, and carried.

With reference to the Resolution carried at the April meeting, relative to Mr. R. D. Oldham's proposal for the introduction of a standard time for the whole of India, the Secretary laid on the table the following letter addressed to the Private Secretary to His Excellency the Viceroy.

Calcutta, 22nd May, 1899.

SIR,

I am directed by the President and Council of the Asiatic Society of Bengal to request that you will be good enough to lay before His Excellency the Governor-General, as Patron of the Society, their views regarding the feasibility and desirability of the introduction of a standard time for universal use throughout the Indian Empire.

2. The subject was brought before the Society by Mr. R. D. Oldham at their monthly meeting held on 5th April, 1899, and on the motion of Mr. T. H. Holland seconded by Major D. Prain, I.M.S., the meeting decided by 19 votes to 1 to refer Mr. Oldham's proposal to the Council for any further action they might consider necessary. A copy of the Proceedings of the meeting of the Society held on 5th April, containing the text of Mr. Oldham's note and of the resolution adopted by the meeting is enclosed for His Excellency's information.

3. In accordance with the resolution adopted at the meeting of the Society the subject was considered by the Council at their next ensuing meeting, held on 28th April, 1899, when it was unanimously decided that the views of the Council should be submitted to His Excellency's favourable consideration.

4. The Council of the Society are unanimous as to the desirability of introducing a standard time into general use in India, and are also of opinion that the preliminary enquiries which must be made before the feasibility of the introduction of a standard time can be determined, or the selection of the standard for adoption be made, can most advantageously and authoritatively be carried out by the Government of India; from whom too the administrative action necessary for the introduction of any change from the present system must come.

5. Apart from the general inconvenience of the present system of local times the Council are desirous of pointing out, as a matter with which they are especially concerned, the hindrance to exact scientific observation which it entails. Local time, away from the principal sea ports, is obtained by an allowance of a certain number of whole minutes in addition to, or subtraction from, the daily time signal transmitted, at 4 P.M. Madras time, through the telegraph system. The number of minutes to be added or subtracted is printed in the official "Telegraph Guide" and is presumably intended to be the nearest whole minute to the actual difference in time. This intention is not always fulfilled; for instance Calcutta time, which is conventionally and in accordance with the official "Telegraph Guide" 33 minutes fast of Madras time is actually 32 minutes and 20 seconds fast, so that 32 minutes would be a more correct allowance to make than 33. Moreover the officially announced allowance is in some cases greater and in others less than the actual true difference in time, thereby introducing a further source of error. Added to these it is not uncommon for small towns to use neither Madras nor their own local time, but the local time of the nearest large city. The Council of the Society is not aware whether this practice prevails in other provinces, but know that not a few places in Bengal habitually use Calcutta time and not that of Madras or of their own meridian.

6. This want of uniformity of time is a cause of great difficulty and confusion in all researches where it is necessary to compare a recorded time at one place with that at another, and may nullify or vitiate even the most carefully made observations. For this reason and apart from any considerations of general convenience the Council of the Society are desirous of seeing the universal adoption of a single standard time in India, and the abandonment of the use of local times.

7. The Council of the Asiatic Society is aware that there is already in existence a nominal standard of time for all India, in that of the Madras Observatory, and that this time is actually in use on all railways and, formally, by the Telegraph Department. They are also aware that many towns habitually use Madras or railway time in preference to their own local time, but at present there is no uniformity of practice in this matter, and they are further of opinion that the present chaotic method of time-keeping has largely been perpetuated by the printing in the official "Telegraph Guide" of the differences between local and Madras time. By the omission of this information they consider that one standard time at all places would soon follow. They are not however of opinion that the practice has been altogether productive of evil, and if the postponement of the adoption of a standard time should lead to the adoption of a more convenient standard than that of Madras, the delay will even have been advantageous.

8. Before deciding on the universal introduction of a standard time it would, in the opinion of the Council of the Asiatic Society, be advisable to consider whether the use of only one time for the whole of India is practicable. The local times at the extreme east and west extremities of the telegraph system, as it stands, amounts, to 2 hours and 10 minutes; when extended to the extreme limits of the Empire it will reach nearly 3 hours. In these circumstances it seems doubtful whether the adoption of one time throughout would not be accompanied by so great an inconvenience that it would not come into universal use. In this case the adoption of standard time could only be enforced if it were accompanied by the introduction of the hour-zone system, by which there would be two or three different times in use, each differing by exactly one entire hour, the minute and second being everywhere the same and the hour also in each separate hour-zone.

9. This system of hour-zones is consistent with the use of Madras or any other time as a standard, but concurrently with the consideration of the desirability of adopting it the standard to be used should be considered, and it is the opinion of the Council of the Asiatic Society that there is much to be said in favour of the adoption of the system in its entirety, of abandoning the use of Madras or any Indian time as the

standard, and adopting Greenwich time in its place. In this way civil time in India would be brought into direct relation with civil time in Europe, in the United States of America, and in the British Colonies in America, Africa and Australia; the difference in time would be always a number of whole hours, or half hours, instead of, as at present, a number of hours and minutes which varies from place to place.

10. So far as inland towns are concerned the Council of the Asiatic Society does not anticipate that there would be any difficulty in introducing the use of whatever standard time may be decided on. The cessation of the publication of the difference between local and standard time, and the use of standard time in all Government offices and on public clocks controlled by Government, would probably be sufficient, but the principal sea port towns are differently situated and the necessity for considering their special needs will probably be the controlling factor in the decision finally arrived at.

11. At Calcutta, Bombay and Madras there are at present astronomical observatories part of whose duties is to control a daily time signal, established primarily for the use of the shipmasters in the port, to enable them to determine the error of and to rate, their chronometers. Incidentally this time signal controls and determines the civil time in use in each of these towns and it seems improbable that a standard time, different to that given by the daily time signal, will ever come into general use in those ports. Any proposal to alter the time signals at other ports to Madras time would probably meet with strenuous opposition, and would be accompanied by no advantage to masters of ships lying in the port. A proposal to alter the time signals to an integral number of hours fast of Greenwich time would probably meet with much less opposition and would, in the opinion of the Council of the Society, be to the advantage of the shipmasters for whose benefit these time signals are primarily intended.

12. While unanimously of opinion that the general adoption of a standard time is desirable both on the grounds of public convenience and for the purposes of all scientific investigations involving a comparison of observed times at different places, the Council of the Society has no desire to express a decided opinion as to the standard to be adopted. While favouring Greenwich time for the reasons given in this letter, and because it appears likely to become the standard for the whole, as it already is for the larger part, of the civilised world, they recognise that such a change should only be introduced after careful inquiry and consideration of all the interests involved in the change. It is with a full trust in the enlightenment of the Government of India, in its willingness to undertake the necessary enquiries and its ability to adopt

the course of action which will be most conducive to the general convenience of the Empire at large and to the advancement of science, and of the art of exact time-keeping, that the Council of the Asiatic Society have instructed me to lay their views before His Excellency the Governor-General, in the hope that he will be pleased to regard them favourably and to take such steps as he may consider advisable to forward the introduction of the reform which they regard as desirable, if after full enquiry it should prove practicable.

The SECRETARY read the following reply to the above letter :—

FROM

THE PRIVATE SECRETARY TO
HIS EXCELLENCY THE VICEROY.

Dated Simla, the 31st May, 1899.

SIR,

I have the honour to acknowledge the receipt of your letter of the 22nd instant regarding the introduction of a standard time throughout India, and to say I have laid it before His Excellency the Viceroy.

I have the honour to be,

SIR,

Your most obedient Servant,

F. W. LATIMER,

For Private Secretary to the Viceroy.

The SECRETARY also read extract of the following letter from Dr. Enrico H. Giglioli, of Florence, regarding the photograph of Cleopatra in the possession of the Asiatic Society of Bengal :—

“I have been able to ascertain that in the public and private picture galleries at Rome, no Cleopatra exists equal to the one you have in Calcutta and of which you sent me a photograph. There is indeed in the *Pinacotheca* at the Capital a Cleopatra by Guido Reni, but it is an unfinished one and not only different from yours, but also from those by Guido in the galleries of Florence and Genoa. The only gallery in Rome which was not searched, because it was closed at the time I was at Rome is the Sciarra gallery ; but I was told that it contains no Cleopatra. Thus yours is in all probability *an original*, certainly by Guido Reni or his School.

No Cleopatra by Guido is in the Barberini gallery at Rome, which was carefully searched.”

The PHILOLOGICAL SECRETARY read the following Budget for the Bibliotheca Indica for the year 1899.

RECEIPTS.

Balance on 31st December, 1898	...	...	Rs. 12,000
Allowance during 1899	...	...	„ 9,000
			<hr/>
			„ 21,000
			<hr/>

DISBURSEMENTS.

Tattva-cintāmaṇi.
 Vṛhad-dharma-Purāṇa.
 Mārkaṇḍeya-Purāṇa.
 Svayambhū-Purāṇa,
 Nyāyavārttika.
 Taittiriya Saṁhītā.
 Ārauta Sūtra of Ṣaṅkhāyana.
 Aitarēya Brāhmaṇa.
 Sher-Phyin.
 Translation of Akbarnāma.
 English Translation of Muntakhab-ut-Tawārikh, Vol. III.
 Kālaviveka.
 Nāyadhamma-kahā-sutta.
 Āpastamba-Ārauta-Sūtra.
 Padumāvati.
 Translation of Riyāzu-s-Salāṭīn.
 Parāçara Smṛti.
 Bālabhāta.
 Translation of Suçruta.
 Vidhiviveka.
 English Translation of Al-Muqaddasī.
 Gadādhara-Paddhati.
 Trikāṇḍa-maṇḍana.
 Çatapatha-brāhmaṇa with the commentary of Sāyaṇācārya.
 Gaṅgāvākyāvali.
 Vivaraṇa.
 Abhilaṣitārtha-cintāmaṇi.
 Advaita-cintā-Kaustubha.
 English translation of Çrāddhatattva.
 Bhāṭṭadīpikā.

Proposals sanctioned—

English Translation of *Prabandha-cintāmaṇi*, by C. H. Tawney, Esq., C.I.E.

Upamitibhavakathāprapañcā, by Prof. Peter Peterson.

Īçvarakaula's Kāçmīraçabdāmṛta, by G. A. Grierson, C.I.E., Ph.D.

Translation of *Çlokavārtika* in English, by Gaṅgānathjhā. *Çataduṣaṇi*.

Prākṛita Piṅgala, by Candramohan Ghose.

The songs of *Vidyāpati*, by Haraprasād Çāstri.

Caturvarga-cintāmaṇi should not be continued, unless suitable MSS. are available.

The editions of *Tulsi Satsai Anubhāṣya*, and *Muntakhab-ut-Tawarikh*, Vol. I, have been completed.

The following list of works sanctioned and approved by the Council, but not taken in hand, has been drawn up in order of urgency :—

- | | |
|--|--|
| 1. <i>Hiranyakēçi-sūtra</i> (Çrauta). | 9. <i>Yājñavalkya-gītā</i> (English Translation). |
| 2. <i>Bandhāyana-sūtra</i> (Çrauta). | 10. English Translation of <i>Caraka</i> . |
| 3. <i>Vipāka-sūtra</i> (Jaina). | 11. Translation of <i>Sāmkhyapra-vacana-bhāṣya</i> . |
| 4. <i>Tawārikh-i-Yamini</i> . | 12. <i>Kalpalatā</i> . |
| 5. <i>Tawārikh-i-Wassāf</i> . | 13. English Translation of <i>Lalita-vistara</i> . |
| 6. <i>Tāju-l-Ma'āşir</i> . | |
| 7. <i>Naqā'idu-l-farazdaq wa Jarir</i> . | |
| 8. <i>Karaṇa-grantha</i> . | |

Mr. F. Finn exhibited a living soft-shelled tortoise (*Euryda* sp. ?), and read the following remarks by W. K. Dods, Esq.

I got the turtle, exhibited, on the evening of the 1st April when out after Eld's deer, on one of the grassy plains near the mouth of the Sittang River. Though dry and burnt up at the time of my visit, this ground is a swamp during at least seven months of the year, after which, when the water, even in the buffalo-wallows, begins to disappear, the turtles and water-snakes bury themselves in the mud, and lie off, till the first Monsoon rains soften the soil and release them for another season. This particular individual was under about two inches of soil, so dry and heated by the sun as to be most disagreeable to walk on even with the protection to one's feet afforded by a heavy pair of shooting boots. Originally the ground had been covered by a thick growth of grass, but that had all been burnt off about a month before by a jungle fire, exposing the cracked soil to the full rays of the sun, and the small round breathing hole to the sharp eyes of my Burman

guide. It was quite lively when dug out, and has never to my knowledge eaten anything since. It seems equally indifferent whether its residence is in a bag, a basket, an empty cartridge box or a pail of water. I saw the shells of several others lying about, but whether they had met their end by jungle fires or other causes I could not find out.

Mr. Finn also exhibited a head of the clucking Teal (*Nettion formosum*), from a specimen shot in India recently, and made remarks upon it.

The PHILOLOGICAL SECRETARY read the following Note on the date of an ancient Palm-leaf MS. from Nepal :—

At the March Meeting of this Society, Mahamahopadhyaya Haraprasād Shastri exhibited an old Palm-leaf MS. of the *Aṣṭāsāhasrika-prajñāpāramitā* which he had just acquired for the Society during his recent stay in Nepal. The MS., as pointed out by him, was written in Nālandā, the famous seat of Buddhistic learning, in the sixth year of Mahipāla, the son of Vīrahapāla. The date, according to him, is expressed moreover in the year 303 of an unknown era. As this statement, if correct, might be of considerable interest, I feel compelled to publish my reading of the Colophon of the MS., which is as follows :—

देयधर्मैयं प्रवरमहायानयायिनः ताडिवाडिमहाविहारीय आवस्थितेन *
 आख्याचार्यस्यविरसाधुगुप्तस्य यदत्र पुण्यन्तद्भवत्वाचार्योपाध्यायमातापितृपुरङ्ग-
 मङ्गत्वा सकलसत्वरेश्वरेश्वरज्ञानफलावाप्तय इति ॥ परममट्टारक-महाराजा-
 धिराज-परमेश्वर-परमसौगत-श्रीमद्द्विग्रहपालदेव-पादानुध्यात । परममट्टारक-
 महाराजाधिराज-परमेश्वर-परमसौगत-श्रीमन्महोपासदेव-प्रवर्द्धमाय-कल्याण-
 विजय-राज्ये षष्ठसम्बत्सरे अभिलिख्यमाने यत्राङ्गे सम्बत् ६ कार्तिकेष्टम्यात्रयो-
 दश्यान्तिथौ मङ्गलवारेण मट्टारिकानिष्पादितमिति ॥ श्रीगणान्दावस्थितकल्याण
 मित्रचिन्तामणिकस्य लिखित इति ॥

It is evident that the words read by Haraprasad Shastri as *abhilikhyamāne patrāṅke* and referred to the number of the page about to be written, actually are *abhilikhyamāne yatrāṅke*, and that they must be taken as synonymous with such phrases as : *yatrāṅge'pi*, *aṅkato'pi*, etc. There is one instance only known to me, where the same phrase occurs in a date, *viz.*, in No. 365 of Prof. Kielhorn's List of Inscriptions,

* This should be either *Tādivāḍi-mahāvihāriya-ṣākyācārya-*, or *Tādivāḍi-mahāvihār-āvasthita-ṣākyācārya-*.

70 Dr. Waddell—*Identity of Upagupta with Moggaliputta Tisso*. [JUNE, published as Appendix to *Epigraphia Indica*, Vol. V. It is a Tipperah Plate of Harikāladeva Raṇavaṅkamalla, and the date is:—

रघवःसमस्त-श्रीमत् (?) हरिकालदेवपादानां समदशसम्बत्सरेऽभिलिख्यमाने
यत्राङ्गनापि सम्बत् १७

The MS. accordingly contains one date only, viz., the sixth year Mahipāla. It is impossible to give the exact European equivalent to this date, without allowing for a limit of about 100 years. There are two Mahipālas known to us from the genealogical lists of Pāla Kings, who both were sons and successors of a king by the name of Vighraha-pāla. Further, we have in an Inscription from Sarnath* the date [Vikrama]-Samvat 1083 for a king of Gauḍa, Mahipāla, but it is impossible to say whether this was the first or second of the two synonymous kings in the Pāla Lists. However, there is no doubt that the MS. has been written in the eleventh century A.D.

The following papers were read:—

1. *Identity of Upagupta, the High-priest of Aṣoka with Moggaliputta Tisso*.—By L. A. WADDELL, LL.D.

In a former article on Upagupta as the High-priest of Aṣoka,† I suggested that this celebrated monk, who is frequently mentioned in the Sanskrit, Chinese and Tibetan accounts of Buddhism in India, was probably identical with Moggaliputta Tisso, the priest of Aṣoka according to the Ceylonese Pali tradition, which latter however knows not the name of Upagupta, just as Moggaliputta Tisso is unknown to the others.

Further examination confirms this view of their identity. Indeed, the fragmentary accounts of these two individuals, as preserved in the leading Sanskrit and Ceylon texts on Aṣoka, namely, the Sanskrit *Aṣokāvadāna* and the Pāli *Mahāvamsa* display such a close agreement in their descriptions and especially in respect to the detailed circumstances of the visit of these monks to Aṣoka, as to leave little doubt that they refer to one and the same person. This agreement is all the more remarkable as these two books are considered to be derived from entirely independent sources. The *Aṣokāvadāna* appears to have existed in India before 317–420 A.D. when a translation from it seems to have been made into Chinese.‡ The portion of the *Mahāvamsa*

* Edited by Hultzsch in *Indian Antiquary*, Vol. XIV, for 1885, p. 139.

† *J. A. S. B.* Vol. LXVI, pt. I, 1897, pp. 76 et seq.

‡ Bunyiu Nanjio's *Catalogue of Buddhist Tripitaka*, p. 300, No. 1344. But the version quoted in this article is from the *Divyāvadāna* as translated by Burnouf in his *Introduction a l'histoire du Bouddhisme Indien*.

in question is believed to date from about the middle of the 5th century A.D.*

To exhibit this agreement I here arrange extracts from these two respective books in parallel columns:—

AÇOKĀVADĀNA.†

MAHĀVĀMSA.‡

He is likened to Buddha.

“The glorious Upagupta...the chief amongst the interpreters of the Law, and a veritable Buddha, without the external signs...he will fill the rôle of a Buddha,” p. 337.

“The illuminator of the Religion of the Jina (Buddha), the Thero, son of Moggali...who has heard his eloquence without considering it the eloquence of the supreme Buddha himself,” pp. 33 and 71.

His origin.

Upagupta was the son of a seller of perfume in Benares, p. 336.§

Moggaliputta Tisso was in his former existence seller of honey in Benares, p. 25.||

His ordination.

Upagupta was converted by Yaças or Yashka (a resident of Çonaka)¶ who was for a time the great Sthavira at the Kukkuṭārāma monastery at Pāṭaliputra, pp. 336, 337.

Moggaliputta Tisso was taught by a pupil of Sonaka (a pupil of ‘Dāsako’) who was the great Thero at the Kukkuṭārāma monastery of Pāṭaliputra, pp. 28 and 30.

His precocity.

“He attained *Arhatship* of an exceptionally high order within three years of entering the Buddhist order,** becoming

“This superlatively-gifted person having attained that qualification, in a short time arrived at the sanctification of Sotāpatti...and

* Turnour's *Mahāvamsa*, p. xxx. Max Müller's *Sacred Books of the East*, X, p. 13.

† The extracts are taken from the second edition of Burnouf's *Indian Buddhism* already quoted.

‡ The extracts are from Turnour's translation.

§ *Vide* my article, *J.A.S.B.*, p. 78.

¶ Mr. Turnour identifies this Tisso as Açoka's young brother Devanāmpīyo Tisso apparently for the reason that the name is mentioned in juxtaposition with Açoka and his wife, but it follows the name of the other great monk of Pāṭaliputra ‘Nigrodho,’ and the text of the *Mahāvamsa* is here very involved and corrupt.

¶ Rockhill's *Life of Buddha* from the Tibetan, p. 173.

** *Vide* my art. above cited, p. 78.

“like the sun shining the light of knowledge over the ruined universe,” p. 339.

ultimately he was elevated to a Thero ..and became as celebrated as the sun and moon,” p. 32.

His hermitage.

He sojourned “in compassion for the world” (p. 338) “on the mountain Urumuṇḍa” near Mathurā, ‘the first of all spots favourable for mental calm,’” p. 337.

“He sojourned for seven years in solitude in pious meditation at the ‘Ahoganga’ mountain (beyond the Ganges) towards the source of the river,” p. 39.

Epoch of his visit to Aṣoka.

This event is placed after Aṣoka’s conversion, p. 339.

This event is placed after Aṣoka’s conversion, pp. 26, 34, 35.

Circumstances under which invited.

“The King Aṣoka proceeded to the Kukkuṭa monastery at (Pāṭaliputra) and there taking the place of honour, said with hands joined in respect: ‘Is there any other person &c., &c.?’ Then Yaṣas the Sthavira of the assembly replied thus: ‘Yes, O great King! there exists one...the son of Gupta...Upagupta,’” p. 336.

“The great king Dhammāsoko ...repairing to the chief (Buddhist) temple (of Pāṭaliputra)*..enquired of the priesthood—‘Is there or is there not any priest of sufficient authority who alleviating my doubts can restore me the comforts of Religion?’ The priesthood replied to the sovereign: ‘O warrior king! the Thero Tisso, the son of Moggali, is such a person,’” p. 40.

Mode of invitation—Aṣoka alters this on advice of his ministers.

“The king having been informed convoked a crowd of his ministers and said...‘I will myself go to see the Sthavira’... But the ministers replied, ‘Sir! it is (only) necessary to send a messenger...the sage...will certainly come himself,’” p. 338.

“On that very day in order that the Thero might be brought on his invitation, he (Aṣoka) despatched four Theras each attended by one thousand priests, &c. ...” But the saint refuses to come and so again when double the number are sent, then “The king enquired ‘what can the cause be that the Thero does not come.’” The priests informed him, thus:—‘Illustrious monarch! on sending him this

* The Mahāvamsa, p. 39, says this temple was the Asokārāma.

message: 'Lord! vouchsafe to extend thy aid to restore me to the faith—the Thero will come,'" p. 40.

Açoka arranges a Boat-service to bring the Monk.

"Açoka thinking that the Sthavira Upagupta will come by water, established boats all the way between Mathurā and Pāṭaliputra," p. 338.

"He (Açoka) thus instructed: 'The Thero on account of his great age will not be disposed to mount a conveyance, do ye therefore transport the Thero in a vessel by the river,'" p. 40.

Acceptance of Invitation.

"Then Upagupta to show his benevolence to king Açoka embarking...arrived at the town of Pāṭaliputra," p. 338.

"He (Moggaliputto Tisso) in the very act of hearing the message rose. They conveyed the Thero in a vessel," p. 40.

Açoka advances to meet him.

"The king advanced to meet the Sthavira Upagupta," p. 339.

"The king went out to meet him," p. 40.

Açoka himself carries the Sage ashore.

"(Açoka) descending from his elephant, he walked across the river-bank and fixing one foot on the bank, he placed the other on board the boat and taking in his arms the Sthavira Upagupta he transported him to the ground," p. 339.

"The monarch (proceeding) till the water reached his knees, with the profoundest respect offered the support of his right shoulder to the disembarking Thero. The benevolent Thero.....accepting the proffered right arm of the sovereign, disembarked from the vessel," p. 41.

Conducts him to the Palace.

"The king having then introduced in great pomp the Sthavira Upagupta into his royal abode," p. 340.

"The king conducting the Thero to the pleasure-garden Rativaddhana," p. 41.

Massages (?) his limbs and seats him.

"He (Açoka) took him between his arms and seated him on the seat which he had fixed. The

"Bathing his feet and anointing them (Açoka) caused him to be seated," p. 41.

body of the Sthavira Upagupta was refined and soft, soft as cotton wool. The king perceiving this said.—‘ Noble creature, thy limbs are soft as cotton, soft as the silk of Benares, but I unfortunate being, my limbs are rude and my body rough to the touch!’ ” p. 340.

Açoka asks for a miracle.

At this meeting none are asked, as in the Mahāvamsa, but afterwards, pp. 341-345.

They visit the Bodhi-tree at Gayā together.

“ Then the King (Açoka) equipped with an army of the four bodies of troops took perfumes, flowers and garlands and set out in company with the Sthavira Upagupta the Sthavira Upagupta having led the king close to the Bodhi-tree, extending his hand said to him, ‘ Here, O great king, the Bodhi-sattva...attained the state of the completely perfect Buddha,’ ” p. 345.

“ The sovereign with the view of trying the supernatural power of the Thero said to him ‘ Lord, I am desirous of witnessing a miracle.’... The Thero, manifested this miracle to him who was there seated,” p. 41.

“ The king (Açoka) inquired (of)...the chief priest, the son of Moggali.... The lord of the land hearing this reply ordered the road to the Bodhi-tree to be swept and perfectly decorated and attended by the four constituent hosts of his military array, and by the great body of the priesthood..... repaired to the great Bodhi-tree which was decorated with every variety of ornament, laden with flowers of every hue. A body of a thousand priests with the chief Thero (son of Moggali) at their head and a body of thousand monarchs with this emperor (Açoka) at their head having enclosed the sovereign himself as well as the great Bo-tree, with uplifted clasped hands gazed on the great Bo-tree,” p. 112.

This extensive agreement in so many details, in these two accounts which are drawn from widely different sources, can scarcely be accidental. On the contrary, they seem to establish the identity of the two persons in question almost beyond doubt.

2. *A new Copper-plate Inscription of Lakṣmaṇa-sena.*—By AKSHAY KUMAR MAITRA, B.L.

3. *A collection of Proverbs from Ladakh.*—By the REVD. H. FRANKE, Moravian Missionary, Leh. Communicated by the Philological Secretary.

The papers will be published in the Journal, Part I.

4. *Note on Hume's Bush-Quail* (*Microperdix manipurensis*).—By CAPTAIN H. S. WOOD, I.M.S. Communicated by the Natural History Secretary.

The paper will be published in the Journal, Part II.

5. *Notes on tribes in Manipur.*—By T. C. HODSON. Communicated by the Anthropological Secretary.

6. *Notes on the Rangari Caste in Berar.*—By CAPTAIN W. HAIG, I.S.C.

7. *On Shāh Abdur Rahman Ghazi.*—By CAPTAIN W. HAIG, I.S.C.

The papers will be published in the Journal, Part III.

PROCEEDINGS
OF THE
ASIATIC SOCIETY OF BENGAL,
FOR JULY, 1899.

The Monthly General Meeting of the Society was held on Wednesday, the 5th July, 1899, at 9-15 P.M.

R. D. OLDHAM, Esq., F.G.S., in the Chair.

The following members were present:—

Major A. Alcock, I.M.S., Mr. J. J. Cotton, Mr. W. K. Dods, Mr. F. Finn, The Revd. W. K. Firminger, Major C. R. M. Green, I.M.S., Mr. T. H. Holland, The Revd. H. B. Hyde, Kumar Rameshwar Maliah, Mr. L. de Nicéville, Mr. J. D. Nimmo, Mahamahopadhaya Haraprasad Shastri, Mr. H. A. Stark, Dr. M. A. Stein, Major L. A. Waddell, I.M.S.

Visitor:—Mr. G. W. L. Caine.

The minutes of the last meeting were read and confirmed.

Twenty-one presentations were announced.

Mr. A. Goodeve Chukerbutty has expressed a wish to withdraw from the Society.

Mr. F. Finn exhibited two living specimens of a new Indian species of Weaver-bird, and made the following remarks upon them:—

The birds I am exhibiting to-night were obtained about the end of June from Mr. W. Rutledge, of Entally, who states that he received them, together with a specimen of the Blue Rock Thrush (*Petrophila cyanus*) recently, from Naini Tal. The man from whom he procured the birds stated that he could get others, so that the species is probably not uncommon. I have no hesitation in describing it as new, as it differs markedly from any of our Indian Weavers, and does not agree either with the description of any of the allied African forms to which I have access. I have much pleasure in naming this handsome novelty after Mr. Rutledge, whose services to Indian Natural History, and to

the Museum and Zoological Gardens in particular, are so well known; and I characterize it as follows:—

Ploceus rutledgii, sp. nov.

Very similar to the male of *Ploceus baya* in breeding-plumage, but easily distinguishable by its larger size, and entirely yellow under surface.

Both specimens have the same coloration and are of about the same size, but as one has a stouter head and is brighter than the other, and constantly sings, it is possible that they are male and female and that the sexes will prove to be similar in this species. A full description, with a coloured plate, will hereafter appear in the Journal.

Major A. Alcock, I.M.S., exhibited a new species of Fish from the Deep Sea, and made the following remarks upon it:—

The fish exhibited to-night belongs to the subfamily *Triacanthinæ* of the Plectognathous family *Sclerodermi*.

It has a short, moderately elevated, compressed body, covered with very small rough scales. The anterior bones of the head are produced to form a long, rather slender, perfectly tubular snout, some little distance from the end of which is the small transverse mouth-cleft. In each jaw is a distant series of very small conical teeth. There are two large spines in the first dorsal fin, and the ventral fins have the form of two long sharp spines that can be abducted to a right angle with the body and there fixed like a bayonet.

In form this fish has a considerable superficial resemblance to *Centriscus*, but the snout is even longer and more perfectly tubular than that of *Centriscus*.

Though an undoubted Plectognath, it is quite unlike any other member of that family, and therefore stands as the type of a new genus, *Halimochirurgus*.

In allusion to its *Centriscus*-like shape, I have called it *Halimochirurgus centriscoides*.

Only this one specimen is known: it was lately dredged by the "Investigator" in the Gulf of Manár, at a depth of 143 fathoms. Its large eye and the delicacy of its tissues are almost sufficient evidence that it lived at the depth at which it was dredged.

The stomach is empty, and therefore gives us no clue to the habits of the animal; but the curious tubular snout with the little valve-like mouth near the end of it look as if meant for suction; and if I might hazard a guess I should say that this fish probably lived by probing for worms hidden in the mud at the bottom of the sea.

The following papers were read :—

1. *The first marriage of Warren Hastings.*—By THE REV. H. B. HYDE, M.A.

In the old Residency Burying-ground at Cossimbazar is an epitaph, to the memory of Mrs. Mary Hastings and her infant daughter Elizabeth. The date of the former's decease is given as July 11th, 1759, but her age was either not accurately known to her husband Mr. Warren Hastings who, according to the epitaph, erected the monument, or else was half obliterated from the stone when the Bengal Government restored the whole some years ago: for it now reads merely "2 ."

Anyhow she was under thirty. Mr. Hastings was at the time Company's agent at the court of the Nawab of Bengal at Moorshedabad and in the 9th year of his Indian Service.

All Hastings' biographers, from Gleig to Sir Alfred Lyall and the writer in the Dictionary of National Biography, state with more or less confidence that this Mary was the widow of a Captain Dugald Campbell, an officer who had been accidentally shot a few days before the recovery, on the 2nd of January, 1757, of Calcutta from the Nawab of Bengal. Thus Sir Alfred Lyall having related how that Hastings on the outbreak of hostilities in 1756 escaped from Moorshedabad to Chunar and thence made his way down the Ganges and joined the refugees from Fort William at Fulda, says:—"Here he met the widow" (wife) "of a Captain Campbell whom he afterwards married, and in 1758 he wrote to a friend that he was very happy and found every good quality in his wife. But the poor lady died in 1759 after bearing him two children, neither of whom survived childhood; and of this brief episode in his eventful life only the bare facts remain."

Accident has lately revealed that this identification of the first Mrs. Hastings is a mistaken one. On turning over, in April last, a miscellaneous bundle of old Calcutta Mayor's Court records (since properly distributed), I found in my hands a paper (endorsed "No. 217, Ecclesiastical Suits") bearing the fine, bold signature of Warren Hastings. It was a petition which had been filed by him in the Court on the 9th of June, 1758, respecting the administration of the estate of his wife's late husband. The document is entitled "Petition of Warren Hastings of Cossimbazaar, Gentleman, in behalf of his wife Mary Hastings, relict to John Buchanan late of Calcutta," and declares that "Captain John Buchanan, late of Calcutta, Gentleman," had died intestate and that the petitioner requested letters of administration to the deceased's estate, because he had married his widow Mary. This petition was accompanied by two other documents, the

earlier of which is an inventory with an account of the proceeds of the property down to 30th March, 1759. This is signed by Mr. J. Z. Holwell, as attorney of Mr. Hastings; the latter is a similar and final account, brought down to January 31st, 1763, and is signed by Mr. Hastings himself.

From these papers, as illustrated by the few volumes of the Calcutta Consultations which survived the siege, the parish Registers and Holwell's tracts, the following notes have been compiled.

In 1754, on the 12th of May, Colonel Caroline Frederick Scott, Engineer-General of the Company's Indian Establishments and Commandant of Fort William died and on the 3rd of June, Captain Minchin was appointed to succeed him. The Company the latter had commanded was given to Lieutenant John Buchanan, to whom the Court had promised a Captain's commission on the next vacancy. At the time of the siege Buchanan is spoken of as being the only senior officer at Calcutta who had seen active service, and we may therefore presume that this commission was the reward of valour in some recent Indian campaign. He was then a married man and the previous month his daughter, Catherine Caroline, by his wife Mary, had been baptized in Calcutta. It is not unlikely that Mary Buchanan was a daughter of Colonel Scott.

At the northernmost point of Calcutta was Perrin's Garden, reserved of old as a promenade for the Company's covenanted servants. By 1752 it had fallen wholly out of fashion, and the buildings about it were becoming ruinous, and it was therefore sold by out-cry. Mr. J. Z. Holwell bought it for 2,500 rupees. From Holwell it passed to Colonel Scott, the Commandant, who had secured the contract for supplying the Garrison and Train with gunpowder. On Perrin's the Colonel erected a Powder Mill. At his decease the premises were purchased by his Administrator, Captain Buchanan, who hoped the Council would transfer to him the gunpowder contract. However there were other tenderers, principally Minchin, Scott's successor, and a Captain Jones, and there was much delay in deciding the point; thus the Perrin's Factory lay idle for many months. Then Buchanan began to experiment in gunpowder-making with the result that he blew up his mill, killing happily only a bullock. Nothing discouraged by this, he, early in 1756, again urged the Council to bestow upon him the lapsed contract. But whether he obtained it or not, and thus whether the powder burnt in the battery which was set up at Perrin's Point on the approach of the Nawab's army was of his compounding or not, does not appear.

Holwell's Tracts contain many allusions to Buchanan, whose energy and courage during the siege were admirable. He held by the Fort

when the Commandant and the President deserted it, and he perished in the Black Hole. His wife must have been among the ladies who were sent on board the ships when the assault upon the Fort became imminent, thus she would have escaped to Fulta.

Here it was most likely that Mr. Hastings met her, and it is not impossible that he actually married her in that dismal refuge and that Admiral Watson's Chaplain, Richard Cobbe, was the officiating minister. This would not be the only marriage assignable to Fulta during the latter months of 1756. No records, however, of English marriages in Bengal can be found between the 20th of February, 1756, and the beginning of 1758.

Buchanan's Estate was computed to have lost 16,000 rupees, or rather more, in the capture of Calcutta. This sum was afterwards recovered from the Nawab's restitution money by Hastings on account of his wife, Buchanan's widow. In April, 1759, Hastings re-sold Perrin's Garden with the buildings upon it, to the Company, for 2,160 rupees.

NOTE.—The Captain Buchanan who was Mrs. Mary Hastings' first husband is not to be confused with a Captain Andrew Buchanan, of the detachment sent from Bombay for the recovery of Fort William, who died on the 5th of June, 1757.

2. *List of the Black Hole Victims, June 20th-21st, 1756.—By THE REV. H. B. HYDE, M.A.*

LIST OF THE BLACK HOLE VICTIMS.

JUNE 20TH-21ST, 1756.

Being the lists given by Holwell in the EPITAPH shown in his plate of the Black-Hole Monument and in an Appendix to his "GENUINE NARRATIVE" revised and with the Christian Names added.

Note.—Ep.—Epitaph.

Apx.—Appendix.

E.S.—Calcutta Mayor's Court, Ecclesiastical Suits. The numbers following these initials are those endorsed on the petitions, &c., relative to the administration of the deceaseds' estates in 1757 & 58 [in cases where the documents could not be found, April, 1899, the references have been supplied from the official Index].

Of Council.

1. EDWARD EYRE, ESQ. Member of Council, 21st December, 1752;
Military Store-keeper, 28th Aug., 1755.
2. WILLIAM BAILLIE, ESQ. Member of Council, 24th November, 1755,
E. S. 20.

Chaplain.

3. GERVAS BELLAMY ... Senior Chaplain. Arrived 22nd August, 1726. "Jervas" in Ep. & Apx. E. S. 17.

Civil Servants.

4. JOHN JENES ... E. S. 95. "Of Cossimbazar" in will.
5. ROGER REVELEY ... "Reevelly" in Ep. "Revely" in Apx. E. S. 148. (& *vide* 95).
6. JOHN LAW ... E. S. 114.
7. THOMAS COALES ... Junior Merchant; Militia Ensign, November 20th, 1752; Accountant-general of the Mayor's Court, January 4th, 1754. Sheriff, 1755, "Coates" in Ep.
8. JAMES VALICOURT ... Junior Merchant; Sheriff, 1752; Alderman 6th December, 1753 and in 1755. "Nalicourt" in Ep. E. S. 182.
9. JOHN JEBB ... Writer. "Jeb" in Apx. E. S. 98 "Merchant" in petition.
10. RICHARD TORRIANO ... Writer. Arrived 4th August, 1755. "Torriano" in Ep. E. S. 176.
11. EDWARD PAGE ... Writer. Arrived 10th June, 1754. E. S. 139.
12. STEPHEN PAGE ... Writer. Arrived 5th September, 1754. E. S. 142.
13. WILLIAM GRUBB ... Writer. Arrived 7th October, 1754. "Grub" in Ep. & Apx. E. S. 81.
14. JOHN STREET ... Writer. E. S. 168.
15. AYLMER HAROD ... Writer. E. S. 267.
16. PATRICK JOHNSTONE ... Writer. Arrived 17th October, 1754.
17. GEORGE BALLARD ... Writer. Arrived 4th August, 1755. E. S. 214.
18. NATHAN DRAKE ... Writer. E. S. 58.
19. JOHN CARSE ... Writer. E. S. 40.
20. WILLIAM KNAPTON ... Writer. Arrived 4th August, 1755. E. S. 108.
21. FRANCIS GOSLING ... Writer. Arrived 5th September, 1754. "Gostlin" in E. S. 83.
22. ROBERT BYNG ... Writer. Arrived 20th August, 1754. "Bing" in Apx. Name omitted in Ep.
23. JOHN DODD ... Writer. Arrived 4th August, 1755. "Dod" in Ep. & Apx. E. S. 57 "Merchant" in petition.
24. STAIR DALRYMPLE ... Writer. E. S. 52.

Military Captains.

25. DAVID CLAYTON. ... E. S. 36.
 26. JOHN BUCHANAN ... Capt. 3rd June, 1754. Mr. Warren Hastings married his widow Mary, E. S. 217.
 27. LAWRENCE WITHERINGTON ... Capt., 2nd November, 1755, of Artillery, ... 27th November, E. S. 191.

Lieutenants.

28. RICHARD BISHOP ... E. S. 15.
 29. FRANCIS HAYS ... Lieut. of Artillery, 6th January, 1755. "Hayes" in minute of appointment. E. S. 270.
 30. THOMAS BLAGG ... Lieut., 5th December, 1753.
 31. COLLIN SIMPSON ... Lieut., 29th September, 1755, E. S. 169.
 32. JOHN BELLAMY ... Lieut., 1753 (?) Son of the Senior Chaplain, E. S. 16.

Ensigns.

33. JOHN FRANCIS PACHARD ... Ensign 10th January, 1733. "Paccard" in Ep. and Apx. E. S. 146.
 34. WILLIAM SCOTT ... Appointed Quartermaster 3rd June, 1754, E. S. 412 (?)
 35. HENRY HASTINGS ... Ensign 29th Sept. 1755, E. S. 92 (?)
 36. CHARLES WEDDERBURN ... E. S. 339.
 37. WILLIAM DUMBLETON ... Ensign of Militia; Notary-Public and Registrar of the Mayor's Court, E. S. 53.

Sergeants of Militia.

38. BERNARD ABRAHAM ... Sergeant-major. Name omitted in Ep. E. S. 5.
 39. WILLIAM CARTWRIGHT ... Quartermaster Sergeant. Name omitted in Ep. E. S. 37.
 40. JACOB BLEAU ... Name omitted in Ep. "Blew" in E. S. 21.

Sea-Captains.

41. HENRY (?) HUNT ... Cf. Court Minutes, Vol. 65, p. 548.
 42. MICHAEL OSBORNE ... "Osburn" in Ep. "Osburne" in Apx. E. S. 299. "Sailmaker" in petition.
 43. THOMAS PURNELL ... "Purnel" in Ep. Survived the night, but died next day.

Messieurs.

44. PETER CARY ... "Cary" in E. S. 38.

45. THOMAS LEECH ... Company's Smith and Parish Clerk, E. S. 115.
 46. FRANCIS STEVENSON ... "Stephenson" in *Apz.*, E. S. 165.
 47. JAMES GUY ... E. S. 82.
 48. JAMES PORTER ... E. S. 138.
 49. WILLIAM PARKER ... E. S. 144.
 50.CAULKER ...
 51.BENDALL ... "Bendol" in *Ep.*
 52.ATKINSON ...

....."Who, with sundry other Inhabitants, "Military and Militia to the Number of 123 Persons, were by the "Tyrannic Violence of Surajud Dowla, Suba of Bengal, suffocated "in the Black Hole Prison of Fort William in the Night of the 20th "Day of June, 1756, and promiscuously thrown the succeeding Morn- "ing into the Ditch of the Ravelin of this Place.

"This Monument is Erected By their Surviving Fellow Sufferer "J. Z. HOLWELL."—*Epitaph.*

3. *Memoir on Maps illustrating the Ancient Geography of Kāsmīr.*
 —By DR. M. A. STEIN.

(Abstract.)

Dr. M. A. Stein presented his maps illustrating the Ancient Geography of Kāsmīr, together with printed copies of his Memoir on these maps. The Memoir will be published as an extra-number of Part I of the Society's *Journal* for 1899. Owing to its extent (223 pages) Dr. Stein restricted himself to reading extracts from the several chapters of this Memoir.

In these extracts he described the methods according to which the maps had been prepared at the Survey of India Offices. He then indicated the character and critical value of the materials for the study of the ancient topography of Kāsmīr which are available in foreign records (Chinese itineraries; Albērūnī) and still more abundantly in Kalhaṇa's *Rājataranginī*; the later Sanskrit Chronicles of Kāsmīr; the Māhātmyas of Kāsmīrian Tirthas, and other indigenous texts. The accuracy and richness of the *data* furnished by Kalhaṇa's Chronicle was specially characterized. Dr. Stein in conclusion illustrated the results he had derived from the study of these historical materials and his topographical researches in Kāsmīr, by an account of the ancient localities identified along the Pir Panṭsāl route and of the local traditions regarding them.

Dr. Stein specially recorded his gratitude to the Asiatic Society whose liberal help had enabled him to bring out maps which besides

servicing the purpose of the present Memoir, will be particularly useful as illustrating his commentated translation of Kalhapa's Kaśmir Chronicle, now in course of publication by Messrs. Constable & Co., London.

4. *On Svapāksarā Prajnāpāramitā.*—By MAHAMAHOPADHYAYA HARAPRASAD SHASTRI, M.A.

The papers will be published in the *Journal*, Part I.

5. *Note on the Mica-bearing Pegmatites of Peninsular India.*—By THOMAS H. HOLLAND, *Geological Survey of India.*

The term *pegmatite*, first suggested in 1822 by the famous French mineralogist Haüy for the regular intergrowths of quartz and felspar now known as graphic granite, was subsequently extended by Delesse to include all very coarse-grained granites—the “giant” granites (*Riesengranit*) of the Germans. Through the teaching of Naumann this use of the word pegmatite has come into general use. Recently, however, it has been employed by Brögger and the late G. H. Williams in a more general sense for the coarse-grained equivalents of the other plutonic groups, syenite, diorite and gabbro, and a distinction is made between granite-pegmatite, diorite-pegmatite and gabbro-pegmatite.

The particular form of pegmatite which is so remarkably developed in peninsular India is the acid variety, or *granite-pegmatite*—the form which differs from ordinary granite merely in the gigantic size of its constituent crystals. In general, therefore, these pegmatites are composed of quartz, felspar and mica, like common granite, but on account of the large size of their crystals, pegmatites have yielded fine specimens of the rarer minerals which are not known to occur in ordinary granites, for the reason, probably, that in the latter the crystals are too small for individual recognition and isolation. The following is a list of the minerals which have been detected so far in Indian pegmatites:—

Albite.	Ilmenite.
Allanite.	Kyanite.
Amazon stone.	Lepidolite.
Apatite.	Leucopyrite.
Automolite.	Magnetite.
Beryl.	Moonstone.
Biotite.	Muscovite.
Cassiterite.	Orthoclase.
Chrysoberyl.	Quartz, pink and white.
Columbite.	Tourmaline, red, blue, green and black.
Corundum.	Torbernite.
Epidote.	Triplite.
Fluor spar.	Uranium ochre.
Garnet.	

The large size of the crystals facilitating their extraction makes some of these minerals, like the phosphates and felspar, worth attention from an economic point of view, whilst the most valuable constituent of all, mica, is of value purely because of the large size of the sheets it forms. Crystals or "books" of muscovite-mica have been obtained in Nellore District, measuring 10 feet across the basal planes, but usually, of course, they are much smaller, all gradations of size being obtained from those of marketable value down to scales of microscopic dimensions such as occur in the common massive granites. Being the most delicate mineral in the rock the mica is the first to show the effects of crushing earth-movements, and large quantities of valuable mineral have by these means been destroyed, but it is on account of the remarkable stability of the Indian peninsula, the geologically long and perfect quiescence it has enjoyed, that India is able to boast of the finest mica deposits of the world.

In India, as in the mica-mining areas of America, the pegmatites are found associated with mica-schists, quartzites and other schistose rocks of the so-called upper division of the Archæan group. Into these schists the pegmatites have been intruded, generally along, but sometimes across, the folia, in the form of thin sheets, lenticular bodies or large thick bosses. The common disposition of the mica-bearing pegmatites in sheets seems to have been entirely overlooked by the miners in India, and ignorance of this fact is the principal cause of the exceedingly wasteful and primitive system of mining now being practised under European as well as Native management.

In the districts of Gya, Hazaribagh and Monghyr the so-called mines are narrow, irregular holes, following the pegmatite sometimes to depths well over 200 feet. The whole of the materials—mica, rubbish and water—are brought by a string of coolies up to the mouth of the hole, which is often near the summit of a hill, being the point where, on account of better exposure, the pegmatite outcrop was originally discovered. On account of the accumulation of water, all mining operations are suspended during the monsoon season, and at the close of the rains the process of "forking" a mine occupies several days and sometimes weeks. In the same way, an hour every morning is spent in baling out the water accumulated overnight. With the one exception now being inaugurated at Bendi, there is not a single vertical shaft in the whole mica-mining area of Bengal, not a single drive or cross-cut to show that the miners have appreciated the actual disposition of the pegmatite as normal intrusive sheets, and, notwithstanding the favourably-shaped natural contours of the ground, not a single adit for the removal of water. That mica-mining has yielded

large profits under such remarkable circumstances affords strong presumptive evidence of the value of the deposits and of the success which should be expected to follow a more scientific working of the many fine pegmatite sheets hitherto untouched.

There is probably no other group of rocks whose origin has been the subject of more varied discussion than the pegmatites. De Saussure received the support of Credner, Klockmann, Dana, Huntington, Kerr and Sterry Hunt, in likening them to metalliferous veins as the result of the successive deposition of mineral matter from solution in fissures, but recent researches support the earlier view of Charpentier (1823) who regarded the pegmatites as injections of granitic material which, originating in the still fluid granite, deep down, was pressed into the cracks of the already solidified granite and rocks above — “after-births,” as it were, of the same granitic formation in the district in which they occur.

Even before Charpentier's time, however, similar views were published by the old Cornish Geologists, Carne, Davy and others, who distinguished between what they called “contemporaneous veins” which are related genetically to the granite which they accompany and often traverse, and the “true veins” filled with valuable ores and formed at a distinctly subsequent period by the chemical infilling of fissures.

It is now generally conceded that pegmatites have resulted from the consolidation of injected fluid magmas, often directly traceable to some large granitic mass. This view that they are merely contemporaneous injections of the residual granite magma has been advocated by De la Beche, Bronn, Fournet, Durocher, Angelot, Naumann, Lehmann, Brögger, Reyer, Williams, Crosby and Fuller.

Recently evidence has accumulated to show that these residual portions of the granitic magmas, instead of being in a state of simple igneous fusion, contain much larger proportions of water than the average magma, and are consequently fluid at a very much lower temperature. Most, perhaps all, igneous magmas contain water, and, as in the process of crystallization anhydrous minerals are separated, the water becomes concentrated in the residuary mother-liquor which can thus remain fluid at a much lower temperature. The injection of this aquo-igneous melt into the neighbouring rocks, or into fissures in the granite just solidified from the same magma, gives rise to the pegmatite veins. With this view it is easy to explain the coarse grain which is so characteristic of even the thinnest veins of pegmatite. The size of a crystal is directly dependent on the freedom of molecular translation within the molten magma (or solution) multiplied by the time during which molecular segregation is permitted. In a magma which becomes viscous

on cooling, and in which the consolidation is rapidly accomplished, the crystals formed are necessarily small, as they always are for instance at the selvages of basic dykes, the converse being the case when the magma retains its fluidity for a long period. With what Beyer calls a *hydatopyrogenetic* (aquo-igneous) magma the latter condition is possible, for there is then a small difference between the temperature of the magma and of the rock into which it is injected, and consequently a very slow dissipation of heat. The reduction of temperature is still more retarded on account of the great specific heat of the water contained in an aquo-igneous melt; for to reduce water by one degree in temperature involves the equivalent rise of some three times the amount of average rock. The water, therefore, which becomes concentrated in the magmas that form our pegmatites explains the high degree of fluidity and consequent injection to great distances of very thin films, as well as the remarkably well crystallized condition in which such thin veins of pegmatite are invariably found.

6. *Riddles current in Behar*.—By SARAT CHANDRA MITRA, M.A., B.L. *Communicated by the Anthropological Secretary.*

7. *Heroic Godlings of Malabar*.—By S. APPADORAI IYER. *Communicated by the Anthropological Secretary.*

The papers will be published in the *Journal*, Part III.

PROCEEDINGS
OF THE
ASIATIC SOCIETY OF BENGAL,
FOR AUGUST, 1899.

The Monthly General Meeting of the Society was held on Wednesday, the 2nd August, 1899, at 9-15 P.M.

ALEX. PEDLER, ESQ., F.R.S., Vice-President, in the chair.

The following members were present :—

Major A. Alcock, I.M.S., Mr. J. Bathgate, Mr. W. K. Dods, Mr. F. Finn, Mr. S. C. Hill, Mr. T. H. Holland, Mr. L. de Nicéville, Mr. J. D. Nimmo, Rai Ram Brahma Sanyal Bahadur, Dr. M. A. Stein, Mr. E. Thornton, Pandit Mahendra Nath Vidyanidhi.

Visitors :—Dr. W. Forsyth, Dr. Frederick Pearse, Mr. Arden Wood.

The minutes of the last meeting were read and confirmed.

Fifty-eight presentations were announced.

Mr. C. W. Peake and Mr. Roomall Gaenka were ballotted for and elected Ordinary Members.

The Council recommended the Revd. Father E. Francotte, S.J., proposed by Mr. T. H. Holland, and seconded by Mr. C. L. Griesbach, for election as an Associate Member at the next meeting.

The Revd. J. Watt expressed a wish to withdraw from the Society.

The proposed alterations in the Society's Rules, of which intimation has already been given by circular to all members were brought up for final disposal.

The votes of the Mofussil members were laid on the table and the Chairman requested any Resident members who had not expressed

their opinion to take the present opportunity of filling in voting papers. Nine such papers were filled in and, with the 42 votes returned by Mofussil members, were scrutinized, the Chairman appointing Messrs. W. K. Dods and J. D. Nimmo to be scrutineers.

The scrutineers reported as follows :—

In favor of all the proposed alterations.

Mofussil Members 42.

Resident „ 9.

Partly in favor and partly against.

Mofussil Members 2.

The following are the alterations proposed :—

Rule 4. “The administration, direction and management of the affairs of the Society shall be entrusted to a Council composed of the Officers of the Society—namely a President, three Vice-Presidents *and one or more Secretaries including the Treasurer*—with as many other Ordinary Members as shall with these officers make up a minimum total of fifteen or a maximum of twenty.

Not more than one of the offices of President, Vice-President, or Secretary, shall be held by the same individual ; *but the Secretary if there be one, or one of the Secretaries, if there be more than one, shall ex-officio act as Treasurer.*”

PROPOSED ALTERATION IN RULE 4. For *and one or more Secretaries, etc.*, read “a General Secretary, a Treasurer, and such additional Secretaries as the Council may from time to time nominate in accordance with Rule 51.”

The reason for this change is that according to Rule 50*h* the Secretaries are *ex-officio* members of all Committees appointed by the Council. When there are six Secretaries, as at present, this is manifestly inconvenient. The office of treasurer is sufficiently important to justify his being specially elected as such by the Society.

As a corollary of this change the words *but the Secretary, etc.*, should be omitted.

Consequent on this change the following verbal changes will be necessary. For ‘Secretary’ in Rules 8, 12, 33, 34; and for ‘one of the Secretaries’ in Rules 55(*c*), 55(*j*), 57(*a*), 60(*h*), 64, substitute ‘General Secretary,’ and in Rule 46 after the word ‘Secretary’ add “Treasurer.”

Rule 14. Ordinary Members shall be entitled to the following rights and privileges :—

(*c*) to introduce visitors at the Ordinary General Meetings.

PROPOSED ADDITION TO RULE 14(c) "and to the grounds and public rooms of the Society during the hours when they are open to members."

Rule 37. When any Ordinary Member shall have omitted to pay the subscriptions of *six* successive quarters, the Council shall cause a registered letter to be sent to him, directed to his last known address, informing him of the amount of the sums due by him and that unless they are paid within six months from the receipt of such letters, his name will be struck off the list of Members as provided in the next rule.

PROPOSED ALTERATION IN RULE 37. For *six* successive quarters read "eight successive quarters."

Reason: Members are not uncommonly out of India for two years on furlough.

Rule 43. The election of Officers and other Members of Council shall take place at the Annual General Meeting of the Society, *in the following manner.*

PROPOSED ALTERATION, omit the words in italics as they are redundant.

Rule 44. The Council shall prepare a list of the names of those persons whom it recommends to be elected as President, Vice-Presidents, *Secretaries*, and other Members of the Council for the ensuing year; and before the first of January, such lists shall be printed, and a copy sent to each of the Resident Members of the Society; and at the Annual Meeting, *similar lists, with blank forms for balloting, shall be supplied to the Members present. The election shall be by ballot. The President shall be first elected, then the Vice-Presidents, then the Secretaries, then the other Members of the Council.*

PROPOSED ALTERATION IN RULE 44: For *Secretaries* read "General Secretary, Treasurer, Additional Secretaries." And for the words *similar lists*, etc. Substitute "voting lists bearing the same list of names but with a blank column for such alterations as any member may wish to make, shall be supplied to the members present.

"The manner of election shall be as follows:—

"(a) Two scrutineers shall be appointed by the Chairman with the approbation of the majority of the members present.

"(b) Each member present shall deliver his list unsigned, but folded and with such alterations as he may wish to make, into one box, and a form bearing a certificate that he has recorded his vote into another.

"(c) The scrutineers, after counting the voting lists and certificates,

shall, if they correspond in number, proceed to examine the voting lists and report to the President the names of those having a majority of votes for composing the Officers and Council of the Society, and these names shall then be announced from the chair.

“(d) In the case of the number of certificates being different from that of the voting papers, the election shall be null and void and a fresh election shall immediately be held.

“(e) If any list contain more than the proper number of names, or include the name of a candidate who is not eligible, it shall be void for uncertainty, and shall not be regarded by the scrutineers.

“(f) If there be an equal number of votes for any two or more candidates, the scrutineers shall announce the fact, and shall proceed to decide by lot which candidate shall have the preference.

“(g) No person who has held office during the preceding year shall be thereby disqualified for re-election: provided always that no person shall hold the office of President for more than two consecutive years, and that of the members of the Council, not being the President, a Vice-President, Treasurer or Secretary, the two who have served longest on the Council without interruptions, provided they have so served at least four consecutive years, shall not be eligible, until after the lapse of one year, as members of the Council otherwise than as President, Vice-President, Treasurer or Secretary.”

Reason for Change. The proposed change is in accordance with the actual practice of the Society, except in the omission of signature on the voting lists themselves and its replacement by a separate certificate of voting. This preserves the anonymity of the vote implied by the use of the word ballot in the present rule. Clauses (e), (f), (g) are clauses (e), (f), (g), of the present Rule 58. They are more appropriately placed here than in Rule 58 which prescribes the procedure at the Annual Meeting.

Rule 45. *At such elections it shall be competent for any Ordinary Member of the Society to vote for members other than those recommended by the Council.*

This rule being embodied in the new Rule 44, may be cancelled. Rules 46 and 47 will then become 45 and 46.

Rule 47. (*New Rule 46*). If for any reason a *President, Vice-Presidents* and Members of Council should not be appointed for the ensuing year on the first Wednesday in February, the *President, Vice-Presidents* and Members of the Council elected during the previous year shall continue to hold office until their successors shall be duly elected.

PROPOSED ALTERATION IN RULE 47 (*new Rule 46*). For "a President, Vice-Presidents" read "the Officers."

Reason. The present rule omits all reference to Secretaries and Treasurer.

PROPOSED NEW RULE 47:—

In the case of the absence of the President from Calcutta, from whatever cause, his powers and duties shall immediately pass to the Senior Vice-President present in Calcutta. In the case of the sudden vacation of office in the interval between two meetings of the Council by the Treasurer or one of the additional Secretaries his duties shall be immediately assumed by the General Secretary and carried on by him until next meeting of the Council. In the case of the absence of the General Secretary from a meeting of the Council or of the Society, the Chairman, and in the case of a sudden vacation of office in the interval between two meetings of the Council, the President shall designate one of the additional Secretaries to take his place and exercise his functions, during the meeting or till the next meeting of the Council.

Reason: This rule is intended to provide for a contingency which is always liable to arise and is not provided for in the present rules.

Rule 50. The duties of the *Secretaries* shall be as follows:—

For *Secretaries* read "General Secretary, subject to such delegation of duties as may be made in accordance with Rule 51."

Rule 50(*h*). To be *ex-officio Members* of all Committees appointed by the Council.

PROPOSED ALTERATION IN RULE 50(*h*). For *members* read "member."

Reason: In accordance with proposed alteration in Rule 4.

Rule 51. The *Secretaries*, when more than one, may, by mutual agreement, and subject to the general control of the Council, make such partition of their duties as they may find convenient. The arrangements made by them, and any alterations in the same, shall be communicated to the Meeting of the Council which shall take place next after such arrangement or alteration.

PROPOSED ALTERATION IN RULE 51. For *Secretaries* read "Additional Secretaries," and after agreement add "among themselves and with the General Secretary."

Reason: In accordance with proposed change in Rule 4.

Rule 52. The Treasurer shall receive and hold for the use of the Society, subject to Rule 66, all monies paid to the Society, he shall

disburse all sums due from the Society, and shall keep exact accounts of all such receipts and payments. Disbursements exceeding 100 rupees shall be made only by order of the Council, or of a Committee of the Council, under signature of the Chairman of the Meeting at which the order was passed.

PROPOSED ADDITION TO RULE 52: "The Treasurer shall be *ex-officio* a Member of all Committees appointed by the Council."

Rule 53. At the expiration of every quarter, the Treasurer shall prepare a list of the names of those members who may be in arrears of their subscriptions for *that or previous* quarters. And shall submit it for the orders of the Council Meetings next before the General Meetings in February, May, August and November.

PROPOSED ALTERATION OF RULE 53: for *that or previous* read "four or more."

Reason: The present rule, if observed, would entail making a list of nearly all the members of the Society every quarter. Rule 22 provides for the loss of privileges of membership by members whose subscriptions are more than four quarters in arrear.

Rule 57. The order of business at such [ordinary monthly] Meetings shall be as follows:—

PROPOSED ADDITION TO RULE 57:—

(i) The Chairman shall announce the names of new members elected at the meeting.

(j) The Chairman shall have the power, when he considers that the meeting has been unduly prolonged, to order any uncompleted business, except that provided for in (i), to stand over to the next meeting.

Rule 58(c). The business to be transacted at the [Annual] Meeting shall be, 1st, to elect the *President, Vice-Presidents, Secretaries and other Members of the Council* for the ensuing year.

PROPOSED ALTERATION. For the words "President, &c., substitute "Officers and"; and after the word "year" add "as provided for in Rule 44."

Sections (d), (e), (f), (g) having been embodied in the proposed new rule 44 to be omitted.

Rule 58 (h). *Two Ordinary Members are to be appointed Auditors of the accounts of the Society for the past year.*

It is proposed to omit Rule 58 (h), as the accounts are now audited professionally, which is also provided for in the proposed change in Rule 66.

Rule 66. The accounts and vouchers of the receipts and expenditure of the Society shall be submitted, Monthly and Annually, to a Finance Committee of the Council for examination and audit; they shall also be presented at each Monthly Meeting, and the annual account shall be laid on the Library table for one month for inspection by Members. Separate accounts shall be kept of all grants of money made by Government.

PROPOSED ALTERATION IN RULE 66: Omit the words *shall be presented*, etc. For *all grants of money*, etc. read "all funds administered by the Society on behalf of Government." Add "The Annual Statement of Account shall after professional audit be printed in the *Proceedings* of the Society."

Reason :—The alteration brings the rule into accordance with the practice of the Society.

Rule 67. Of the Funds of the Society now invested in Government Securities Rs. 1,20,000 shall be considered as a Permanent Reserve Fund for the benefit of the Society, &c.

PROPOSED ALTERATION, omit the word "now"; after the word "Securities" add "on the 15th Nov. 1876" and after "Rs. 1,20,000" add, "together with all additions which have been, or may be, made in accordance with Rules 69 and 70."

Rule 69. Whenever the Temporary Vested Fund shall exceed the sum of Rs. 10,000, it shall be lawful to the Council, if they consider it desirable to transfer such excess to the Permanent Reserve Fund and the provisions of Rule 67 shall apply to these additions exactly as if they had formed part of the original sum.

PROPOSED ALTERATION. For the words 'Whenever' &c. substitute "The Council shall have the power to make, from time to time, such additions as they consider desirable."

Reason. Rule 70 provided that all admission and compounding fees should be immediately transferred to the Permanent Reserve Fund. In 1890 this rule was altered so that the Council can now, when necessary, apply entrance fees to meeting the current expenditure of the Society. The practice has been to follow the spirit of Rule 70 in its original form and to transfer the admission fees to the Permanent Reserve Fund whenever this was possible. It seems desirable to legalise this practice apart from the arbitrary limit of Rs. 10,000 to the Temporary Vested Fund.

Rule 78. When the introduction of any new *Bys-law*, or the

alteration or repeal of any existing *Bye-law*, is recommended by the Council, or proposed by ten or more Ordinary Members, the Council shall cause to be sent to every Member of the Society entitled to vote, a statement of the proposed changes and the reasons for them, with a view to the votes of the general body of Members being taken as directed in Rule 65. Provided always that no change in the *Bye-laws* shall be valid unless a majority of three-fourths of the Members who have voted shall be in favor of the proposed changes.

PROPOSED CHANGE IN RULE 78: For *Bye-law* read "Rule."

Reason: The word "Bye-law" is nowhere else mentioned in these rules.

Rule 79. These Rules shall take effect from the 15th November, 1876. All previous Rules, Regulations, and *Bye-laws* are hereby rescinded from that date.

PROPOSED ALTERATION IN RULE 79: For 15th November, 1876, read 15th August, 1899; and omit the words "and Bye-laws."

Dr. M. A. Stein exhibited an old manuscript of certain Parvans of the *Mahābhārata*, written in Śāradā characters and recently purchased by him in Kaśmir. In his accompanying remarks Dr. Stein drew attention to the special interest attaching to the codex owing to the additional entries made in it by an old glossator, already known from the codex archetypus of Kalhaṇa's *Rājatarāṅgiṇī* and designated as A₂ in Dr. Stein's edition of the latter text. A curious Sanskrit deed of sale referring to this Mahābhārata MS. and recorded on one of its fly-leaves by the hand of A₂, makes it now possible to ascertain exactly the time and person of this learned glossator whose notes and readings are of great value for the critical study of the Kaśmir Chronicle.

The deed of sale itself is a document of antiquarian interest. It is the first Sanskrit record of this kind which has hitherto come to light in Kaśmir and shows in its form and phraseology close agreement with the formularies found in the curious Kaśmirian Kośa known as *Kṣemendra's Lokaprakāśa*. The record of the sale price in the deed is of interest as an illustration of the traditional system of monetary reckoning in Kaśmir. A curious side-light is thrown by it on the economic conditions of old Kaśmir.

Dr. Stein intends to publish his notes regarding the codex as soon as arrangements can be made for the early reproduction of the folio containing the deed of sale in one of the Journals serving Oriental research.

The following papers were read :—

1. *On a new species of Bhimraj (Dissemurus) with some general notes on the so-called family Dicruridae.*—By F. FINN, B.A., F.Z.S., Deputy Superintendent of the Indian Museum.

2. *Notes on some New and Rare species of Crustacea.*—By MAJOR A. ALCOCK, I.M.S., Superintendent of the Indian Museum, with Exhibition of Specimens.

The papers will be published in the *Journal*, Part II.

3. *The Royal Society's scheme for an International Catalogue of Scientific Literature.* By the Honorary Secretary of the Committee of Control, Regional Bureau for India and Ceylon.

I. ORIGIN AND OUTLINE OF THE SCHEME.

At an International Conference organized by the Royal Society, and held in London during July 1896, it was considered "desirable to compile and publish, by means of some international organisation, a complete catalogue of scientific literature, arranged according both to subject matter and to authors' names," in order that scientific investigators, by means of the catalogue, may be able readily to find out what has been published concerning any particular subject of enquiry.

In the following November a Committee was appointed by the Royal Society of London to study all the questions involved, and to frame a scheme for the work. The report of this Committee was issued on the 30th March, 1898, and during the following October a second International Conference was held in London to discuss the proposals of the Committee. This Conference, which included delegates from Austria, Belgium, France, Germany, Hungary, Japan, Mexico, Netherlands, Norway, Sweden, Switzerland, United Kingdom, United States, Cape Colony, India, Natal, New Zealand and Queensland, confirmed the general principle of the previous Committee, that a catalogue be published in the form of separate cards for each paper as well as periodically classified in book form. It was decided to provide schedules for the internal classification of each of the following seventeen sciences :—

Mathematics.
Astronomy.
Meteorology.
Physics.
Crystallography.
Chemistry.

Mineralogy.
 Geology (including Petrology).
 Geography—Mathematical and Physical.
 Palæontology.
 Anatomy.
 Zoology.
 Botany.
 Physiology (including Pharmacology and Experimental Pathology.)
 Bacteriology.
 Psychology.
 Anthropology.

Each of these subjects will be distinguished by a separate *registration letter* and the subdivisions indicated in the schedules by *registration numbers* designed purely for the guidance of the Central Bureau in arranging the cards in order for the compilation of a book subject catalogue.

Card catalogue :—The basis of the catalogue is the card or slip. For every communication containing scientific statements worthy of being indexed, whether appearing in a periodical or any other form of independent publication, at least one separate slip is to be prepared. These will be issued regularly to subscribers and will enable them not only to keep themselves informed as to the progress of a science, but also easily to keep an “account current” of such progress.

Book catalogue :—At determined regular intervals, not necessarily the same for all sciences, the Central Bureau in London will compile from the slips and issue in a book form an index to authors as well as an index to the subjects treated in the literature published within the determined period. The book-catalogue will be obtainable in parts corresponding to the several sciences for which slips are provided, and in some cases, in Zoology for example, it may be found desirable to issue separate volumes for special sections of the subject. It is proposed also to supplement this frequent periodical publication of book-catalogues by issuing collective indices covering periods of at least five or ten years. The titles of the publications and the subject entries will appear either in English, French, German, Italian or Latin, and the titles of publications appearing in other languages will be translated into one of these five for the purpose of indexing, but the original title will be preserved and issued with the translation.

The final schedule of classification for each subject is now being worked out by an International Committee, which was appointed by the 1898 Conference for the purpose, but the schedules proposed by the Royal

Society's Committee, whose work closed on March 30th of last year, may be taken as example of the way in which the subjects will be sub-divided and catalogued.

As an example, the schedule proposed for subject F, Chemistry, is given at the end of this note and shows the elaborate system of classification which will enable the worker in any special branch to readily obtain the current literature bearing on his researches.

Where the different subjects overlap one another arrangements will be made as much as possible for similarity of numbering. Thus, in the case of Palæontology a publication will be numbered according to the system used in Geology for the stratigraphical horizon of the fossils referred to, according to the Zoological and Botanical systems to indicate their position in the animal or vegetable kingdom, and according to the scheme for Geography to show the country in which the specimens were found. A paper, for instance, on Cretaceous Fishes from Asiatic Turkey would bear the symbol, K75, 14*ei*; K standing for Palæontology; 75, the number for Cretaceous in the Geological schedule; 14 that for fishes in the Zoological; *e* for Asia and *ei* for Asiatic Turkey and Arabia.

The systems of classification indicated above for Chemistry and for Palæontology are sufficient to show the immense value the catalogues will be to special workers, who, under present circumstances, have no certain means of readily discovering the whole of the current literature bearing on their particular lines of research.

II. THE FORMATION OF REGIONAL BUREAUX.

The Royal Society's Committee, by enquiry of experts in the various subjects, estimated that the number of communications to be analysed and indexed would not fall far short of 40,000 in each year. To deal with such a body of literature, according to the detailed scheme indicated above, would, naturally, be beyond the powers of any one unaided Society, and the formation of Regional Bureaux was consequently undertaken.

The term *Regional Bureau* is introduced to indicate an organisation, wherever established, for the purpose of collecting and indexing the scientific literature of a particular region. The region may be either a country or part of a country, or several countries or parts of countries which can for this particular purpose be conveniently grouped together.

It is proposed that such Regional Bureaux shall be entrusted with the task of preparing the slips required to completely index the scientific literature of the regions committed to their charge. The slips so prepared in the different regions will be regularly forwarded

to the Central Bureau in London, to be checked according to the sanctioned schedules, and then printed, first in slip form and finally in book form for issue to the subscribers.

Primary slips :—The slips forwarded to the Central Bureau from each region will be known as *primary slips*, and when these bear more than one registration letter, or more than one subject-entry (indicating that more than subject is treated in the publication it refers to), copies will be printed, with or without alteration in the arrangement of the subject-entries, to permit the production of a full card catalogue for each subject. Such copies of the primary slip will be known as *secondary slips* and will be prepared entirely in the Central Bureau.

The Regional Bureaux will be responsible merely for the preparation of the primary slips, each of which is to contain :—

- (i) *A Title-entry*—giving the author's name and the full title of the communication, in the original language alone if the language be either English, French, German, Italian or Latin. In the case of other languages, the title will be, as far as the Regional Bureau for India and Ceylon is concerned, translated into English; but the original title will also be added, either in the original script, or transliterated into Roman script. The title will be followed by every necessary reference, including the year of publication, and such other symbols as may be determined. In the case of a separately published book, the place and year of publication, and the number of pages, &c., will be given.
- (ii) *Subject-entries*—indicating as briefly as possible the principal subjects to which the communication refers. Such subject-entries will be given only in the original language of the communication if this be one of the five previously referred to, but in other cases in India and Ceylon, English will be used.

The following specimens of primary slips prepared by the Royal Society's Committee will serve as a guide to Authors, who, it is hoped, will assist the local committee in their preparation :—

Specimen Primary Slips.

Mineralogy.

- G.**
- FOOTE, H. W. On the occurrence of Pollucite, Columbite, and Microlite at Rumford, Maine. *Am. Journ. Sci.*, 1896 (iv), **1**, 457.
Pollucite. From Rumford, Maine. *Anal.*
Mangano-columbite. From Rumford, Maine. *Cryst.*

Columbite. Mangano-columbite, from Rumford, Maine. Cryst.
Microbite. From Rumford, Maine.
Rumford (Maine). Pollucite, &c.

Zoology.

L.

WINTON, W. E. de. Remarks on the existing forms of Giraffe.
 P. Zool. Soc. London, 1897, pp. 273-283.

[*Mammalia, Artiodactyla, Giraffide.*]

Giraffa, specific characters, figg. ; synonymy ...
 Means of defence, use and origin of horns ...
 Africa, distribution in

III. THE REGIONAL BUREAU FOR INDIA AND CEYLON.

The Asiatic Society of Bengal, recognising the immense value of the scheme to workers in this country, readily acceded to the request of the Royal Society and undertook the formation and conduct of a Regional Bureau for India and Ceylon. The Governments of India and Ceylon have been addressed in the subject, and, in addition to an annual grant sanctioned by the former Government to cover office expenses, they have directed all heads of Government Departments issuing publications on subjects included in the Royal Society's list, to supply the Asiatic Society with primary slips of the kind described above; they have also instructed Local Governments and Administrations to supply periodical lists of books and journals published within their jurisdiction, with, as far as possible, copies of the publications.

A Committee has been appointed by the Asiatic Society to control the work of this Regional Bureau, and each subject defined by the Royal Society is represented on the Committee by a specialist, who will be responsible for checking or supplementing the primary slips relating to publications in his particular subject.

To Authors:—But as there are some fifty periodicals to be examined, besides independently published works, the Committee feels that its self-imposed task will not be adequately carried out without the loyal assistance of authors themselves, who, naturally, can most rapidly and most accurately indicate the scope of their essays.

The working of this scheme will, moreover, be attended with certain advantages to the authors themselves; for the catalogues will be regularly printed and issued by the Royal Society to the subscribers, who will include, besides many of the chief workers in each science, the principal scientific institutions and libraries in the world. In this way all scientific papers and books published in India will be brought

to the notice of the scientific world and the present partial and unavoidable neglect of Indian publications will consequently no longer be possible. In fact, as far as the scientific world is concerned, work published in India will now receive, as it should do, exactly the same notice as it would if published by a leading society in Europe.

The assistance which the Committee ask of authors of papers coming within the scope of the catalogue is the preparation of a "primary slip" for each paper, prepared as already indicated and in a form similar to the two samples given above.

It is important to observe that what is required is not an index to the paper or book, but an index to the subjects treated, and the entries for these should be as brief and as few as is consistent with the scope of the paper. The author is not asked to enter the registration letters and numbers; that will be done by the Bureau, but he is requested to make the subject-entries, and these should only be prepared for subjects which are so treated as to contain an addition or alteration to existing knowledge; subjects referred to merely as illustrations of the matters dealt with in the paper should not be indexed.

In the case of papers dealing with Palæontology, Zoology or Botany the Primary Slip should contain a classified list of all new species described. If no new species are described the subject-entries should indicate the natural orders, families, or genera dealt with and the subject dealt with in relation to them.

Books or papers whose scope is completely or sufficiently indicated by the title will require no further subject-entries. Text-books and educational works whose scope is sufficiently indicated by their title require no subject-entries, except where they may contain additions to the existing knowledge of science, when subject-entries should be prepared for these parts only.

The Committee of the Regional Bureau have drawn up a list of periodicals which are known by them to publish scientific papers, and which are received in the library of the Asiatic Society of Bengal; but they have to trust to the quarterly reports from Local Governments for intimation of the publication of independent books and pamphlets. As these quarterly reports may appear some considerable time after the publication of a book, it is desirable for Authors, to ensure immediate record being made of their work, to send a copy to the Asiatic Society accompanied by a primary slip containing title and subject-entries. Societies and Editors are similarly recommended to adopt the very useful practice now being followed by many scientific societies in Europe of issuing primary slips with each "part" of a journal. Such slips can best be prepared by the authors themselves, and sent to the

editor of the journal in which his paper appears for transmission with the journal to the Asiatic Society of Bengal.

IV. CENTRAL ORGANISATION.

For the continuation and proper development of the work the Royal Society recommended, and the Conference held last October approved of, the organisation of *International Conventions* to be held in London in 1905, 1910 and every tenth year afterwards. Such International Conventions will consist of delegates appointed to represent the various Regional Bureaux, for the purpose of revising as may be necessary the regulations for carrying out the work of the catalogue authorised by the International Conference of 1898.

It is also proposed to form an *International Council* composed of one member from each of the Regional Bureaux to act as a governing body of the catalogue. The reports of this Council, giving an account of the expenses of the scheme, will be distributed to the several Regional Bureaux and will be published in recognised local periodicals.

The International Council will appoint for each science an *International Committee of Referees* to decide on questions of classification not provided for by the catalogue regulations, or in cases of doubt to pronounce an opinion as to the meaning of the regulations.

The actual routine work connected with the classification of primary slips received from the different regions, and the printing and issue of the catalogues will be carried on in London by the *Central Bureau*, which will consist of a Director and staff of expert Assistants.

It is impossible yet to fix the rates of subscription to the catalogues, but the scheme drawn up by the Royal Society's Committee provides for subscription to the Slip Catalogue and the Book Catalogue separately, both of which will be issued in parts devoted to the whole of a registered science when its literature is limited in amount, or to a special section of a science when its literature is extensive and capable of convenient subdivision. The Regional Bureaux will, later on, be provided with the scale of subscription, when steps will be taken to inform individuals or institutions likely to subscribe.

The preparation of the catalogue will date from the 1st of January, 1900.

Abridged Schedule of Classification for Chemistry.**Chemical Bibliography.*

- 0000 Philosophy.
- 0010 History.
- 0020 Biography.
- 0030 Dictionaries, collected works, text-books.
- 0040 Pedagogy.
- 0050 Addresses, lectures, essays and theses.
- 0100 Chemistry (Specific) of the Elements, to include all entries relating to the elements generally, or which cannot be referred to any one of the known elements.
- 0110 Aluminium.
- 0120 Antimony.
- 0130 Argon, followed by the other known elements at similar numerical intervals and arranged in alphabetical order up to—
- 0840 Zirconium.

Entries made under any element may be further sub-divided according to the nature of the compounds in which they occur, and are arranged into five further sections in such order that the entries relating, α , to the history or origin of the substance shall come first, followed by, β , its preparation or manufacture; γ , its structure, or theoretical nature; δ , its interactions or use; and ϵ its compounds.

- 0900 Laboratory Procedure.
- 1000 Organic (Carbon) Chemistry (Specific).
- 1010 Hydrocarbons generally with the following recognised groups—
- 1020 Paraffins.
- 1030 Unsaturated open chain hydrocarbons.
- 1040 Benzenoid hydrocarbons.
- 1050 Reduced benzenoid hydrocarbons (terpenes, &c.).
- 1060 Unclassified hydrocarbons.

When necessary these groups of hydrocarbons are further sub-divided into isologous groups, in each of which the compounds are entered in homologous order.

- 1100 Alcohols and Ethers with sub-divisions as in the case of hydrocarbons ranging from 1110 to 1150.
- 1200 Acids.

* From the Report of the Royal Society Committee, March 30th, 1898. The numbers employed to distinguish the sub-divisions are sufficiently separated to admit the interpolation of new sub-divisions as the subject expands.

- 1300 Aldehydes and Ketones.
- 1400 Carbohydrates ; Glucosides ; Resins.
- 1500 Amino- and Azo-compounds.
- 1600 Mixed Cycloids.
- 1700 Organo-metallic and allied compounds.
- 1800 Alkaloids.
- 1900 Proteids.
- 2000 Coloured compounds.
- 2500 Operations in Organic Chemistry.
- 3000 Analytical Chemistry.
- 3500 Theoretical and Physical Chemistry.
- 4000 Physiological Chemistry.

The above are only the main sections proposed by the Committee ; the sub-divisions between Nos. 1500 and 1600 (*Amino- and Azo- compounds*) will serve to exemplify the next stage of sub-division in the schedule —

- 1510 Amino-paraffins.
- 1520 Amino-derivatives of unsaturated open chain hydrocarbons.
- 1530 Amino-derivatives of benzenoid hydrocarbons.
- 1535 Amino-derivatives of reduced benzenoid hydrocarbons.
- 1540 Acid amides and allied compounds.
- 1545 Imides, imido-ethers, &c.
- 1550 Azo-compounds (open chain).
- 1560 Azo-compounds (closed chain).
- 1570 Diazo-compounds (open chain).
- 1580 Diazo-compounds (closed chain).
- 1590 Unclassified amino- and azo-compounds.

Each of the divisions 1570–1540 are sub-divided again into mono-amino-, diamino-, &c., derivatives, which are arranged as in other series.

The following is given as a specimen page of the subject-catalogue in Chemistry :—

Specimen Page of Subject Catalogue.

F. Chemistry.

0020 Chemical Bibliography.

Biography.

Baumann, Eugen, mit Bildniss und Verzeichniss seiner Schriften. *Kossel*, A., B., 1897, 3197-3209.

Blomstrand. Christian. Wilhelm, *Klason Peter*, B., 1897, 3227-3241. Kekulé memorial lecture. with portrait. *Japp*, F. R. Soc., 1898, 97-131. Stohman, Friedrich, mit Verzeichniss seiner Schriften. *Ostwald*, W., B., 1897, 3214-3222.

0040 Pedagogy.

Chapters on the aims and practice of teaching, edited by *Frederic Spencer*. Cambridge (England). At the University Press, 1897. Chap. X., Chemistry, by *Armstrong*, H. E., 222-259.

0100 Elements.

^a Sur un nouvel extrait de la bauxite française. *Bayer*, R. S., Bl., 1894, 11, 1155.

Argon, a new constituent of the atmosphere. β ϕ . *Rayleigh Lord*, and *Ramsay*, W., Phil. Trans., 1895, 187-241.

0100 Aluminium.

δ Amalgamirtes mit Wasser als neutralen Reductionsmitel. *Wislicenus*, H., and *Kaufmann*, L. B., 1895, 1323, 1983. —*Cohen*, J. B., and *Ormandy*, R., Ibid., 1505.

Use of amalgamated, in preparing benzenoid hydrocarbons. *Hirst*, H. R., and *Cohen*, J. B., Soc. Pr., 1895, 148.

Action sur le carbone et ses composés. *Franck* L., Bl. 1894, 439.

C. Carbone. *Franck* L., Bl., 1894, 445.

Cl. Krystallisirtes. κ . *Dennis*, L. M., β Z. a. Ch., 1894, 339.

ϵ Avec du borneol, du camphre, et du camphre monochloré. *Perrier*, G., C. r., 1894, 119, 276.

Avec les composés nitrés aromatique. *Perrier* G., C. r., 1895, 120, 930.

O. Sur les carbonates, les hydrates et β les phosphates. *Schlumberger*, E., Bl., 1895, 41.

δ Réduction par le charbon. *Moissan*, H., C. r., 1894, 119, 260.

Si. Zur Chemie einiger Alumosilicate.

γ Einwirkung der Alkalien. *Thugutt*, S. J., Jahrb. f. Min. Beil., 9, 554.

0390 Iodine.

β Pure from Cuprous iodide. *Lean*, *Bevan*, and *Whatmough*, W. H., Soc., 1898, 148-157.

Cu. Cuprous iodide from iodoform. *Lean*, β *Bevan*, and *Whatmough*, W. H., Soc., 1898, 153.

0510 Nitrogen.

Density of, from various sources. *Rayleigh*, *Lord*, and *Ramsay*, W., Phil. Trans., 1895, 187.

O Nitroverbindungen, Aliphatische. ϕ β *Piloty*, O., B., 1898, 452.

P Polymeric chloronitrides or phosphorus. β *Stokes*, N. H., Am. Chem. Journ., 1897, 782-795.

1010 Hydrocarbons.

Petroleum, Composition of Californian. *Maybery*, C. F., Am. Chem. Journ., 1897, 796.

1020. Paraffins.

β propyl, Brom-2-nitroso-2-, aus Acetoxim und Brom. Identisch mit Brompropylpseudonitrol. *Piloty*, O., B., 1898, 454.

Octan-Ueber ein Nitroso-. Dimethyl-2'5-nitroso-2-hexan. *Piloty*, O., und *Ruff*, O., B., 1898, 457.

1130 Benzenoid-ols.

δ phenol, *p*-Amido-, und dessen Aether. Einwirkung des Oxalesters auf *Piutti*, A., und *Piccoli*, R., B., 1898, 330.

1230 Benzenoid Acids.

Cinnamic and allied acids as a criterion of structure, Etherification of. *Sudborough*, J. J., and *Lloyd*, L. L. Soc., 1898, 81-96.

1340 Closed chain ons.

β Sulfonate cyclischer Ketone. Pentanon-Methylpentanon-, Methylhexanon-, und Heptanonsulfonal. *Wallach*, O., und *Borsche*, W., B., 1898, 338.

3500 Theoretical Chemistry.

Stereoisomerism as affecting formation of ethereal salts from unsaturated acids. *Sudborough* J. J., and *Lloyd*, L. L. Soc., 1898, 81-96.

3550 Conditions of Chemical

Change. Moisture, Influence on production and stability of ozone, and on interaction of mercury and halogens of. *Shenstone*, W. A. Soc., 1897, 71, 477-488.

PROCEEDINGS

NOTICE.

Foreign Societies who favour the Asiatic Society of Bengal with their publications are informed that they may be sent either to the address of the Society at Calcutta, or to the Agents of the Society in London, Messrs. Luzac & Co., 46, Great Russell Street.

AVIS.

Des Sociétés Etrangères qui honorent la Société Asiatique de Bengale de ses publications, sont priées de les envoyer ou directement à l'adresse de la Société, 57, Park Street, Calcutta, ou aux Agents de la Société à Londres, Messrs. Luzac et Cie, 46, Great Russell Street.

ANZEIGE.

Ausländische Gesellschaften welche die Asiatische Gesellschaft von Bengalen mit ihren Publicationen beehren, sind hierdurch ersucht dieselben entweder direct an die Adresse der Gesellschaft, 57, Park Street, Calcutta, oder an deren Agenten in London, Messrs. Luzac & Co., 46, Great Russell Street.

an Associate Member.

Father Francotte has for some years been Professor of Chemistry in the St. Xavier's College. He has conducted the Meteorological Observatory founded in 1867 by Father Lafont, and has published half-yearly summaries of his observations. Recently he has undertaken, as



PROCEEDINGS
OF THE
ASIATIC SOCIETY OF BENGAL,
FOR NOVEMBER, 1899.

The Monthly General Meeting of the Society was held on Wednesday, the 1st November, 1899, at 9 P.M.

L. DE NICÉVILLE, Esq., C.M.Z.S., F.E.S., in the chair.

The following members were present:—

Mr. F. Finn, Mr. D. Hooper, Mr. W. A. Lee, Mr. J. D. Nimmo, Mr. F. E. Pargiter, Mr. J. Wyness.

Visitors:—Mr. E. Kinnison, Mr. W. F. Reynolds.

The minutes of the last meeting were read and confirmed.

One hundred and fourteen presentations were announced.

Dr. Mannu Lal, Ruj Kumar Satchidanand Dev Bahadur, Mr. St. John Stephen, B.A., LL.B., Dr. H. C. Garth, Mr. W. Dods, Mr. E. Seymour Wood, The Most Reverend James Edward Cowell Welldon, D.D., and Babu Jotindra Nath Mukharji, were elected Ordinary Members of the Society during the recess in accordance with Rule 7.

The Revd. Father E. Francotte, S.J., was balloted for and elected an Associate Member.

Father Francotte has for some years been Professor of Chemistry in the St. Xavier's College. He has conducted the Meteorological Observatory founded in 1867 by Father Lafont, and has published half-yearly summaries of his observations. Recently he has undertaken, as

a member of the Committee for the Regional Bureau, to catalogue the literature on Indian and Ceylonese Meteorology for the International Catalogue of Scientific Literature, and has in other ways shown his knowledge and interest in the progress of Science in India.

Mr. R. C. Hamilton, I.C.S., and Lala Shyam Sunderlal Srivastava, were balloted for and elected Ordinary Members.

The Council reported that in consequence of the deaths of:—Sir Monier Monier-Williams, Kt., K.C.I.E., Sir William Henry Flower, K.C.B., and Sir Edward Frankland, K.C.B., there were now four vacancies in the list of the Honorary Members. The Council therefore recommended the four following gentlemen for election as Honorary Members at the next meeting.

Professor Edwin Ray Lankester was educated at St. Paul's School, London, and Christ Church College, Oxford. He was appointed Fellow and Lecturer of Exeter College, Oxford, in 1872, and Professor of Zoology and Comparative Anatomy in University College, London, in 1874. He is an honorary LL.D. of the University of St. Andrews (1885), and one of the Honorary Fellows of Exeter College, Oxford. He was elected a Fellow of the Royal Society in 1875. He is one of the most distinguished zoologists of the present day, and has published more than a hundred scientific memoirs (dating from 1865) mostly on Comparative Anatomy and Palæontology, among the most important of which are—A Monograph of the Fossil Fishes of the Old Red Sandstone of Britain (1870): Contributions to the Developmental History of the Mollusca (1875): *Limulus* an Arachnid (1881); *Rhabdopleura* and *Amphioxus*, (1887), and the masterly articles Hydrozoa, Mollusca, Polyzoa, Protozoa, Vertebrata, and Zoology in the ninth edition of the Encyclopædia "Britannica." Since 1869, when he joined his father, the late Dr. Edwin Lankester, in that work, he has been chief editor of the Quarterly Journal of Microscopical Science. During the years 1870–74, he was one of the sectional secretaries of the British Association for the Advancement of Science, and in 1883 was President of the Biological Section of the Association when it met at Southport. In April, 1882, Professor Lankester accepted the Regius chair of Natural History in the University of Edinburgh, on the death of Sir Wyville Thomson, but shortly afterwards resigned it, and was immediately re-elected to his Professorship at University College, which had been endowed, shortly after his original appointment to the post, by Professor Jodrell. In November of the year of this re-election he was elected by the Royal Society to be a member of the Council of that body, and for a second term of service in November, 1888. In 1884, Professor Lankester

founded the Marine Biological Association, of which he is President. In 1885, the Council of the Royal Society awarded to Professor Lankester one of the Royal Medals in recognition of his discoveries in the field of Zoology and Palæontology, and in 1890, he was appointed to the Linacre Professorship of Human and Comparative Anatomy at Oxford, which he has held till last year, when he was appointed Director of the British Museum of Natural History at South Kensington.

Sir George King, K.C.I.E., M.B., LL.D., F.R.S., F.L.S., who has been an ordinary member of the Society since December, 1867, held the post of Superintendent of the Royal Botanic Garden, Calcutta, from 1871 till his retirement from the service of Government in 1898. He is the author of many contributions to systematic botany. Of his numerous papers on regional botany the most extensive and important have been the *Materials for a Flora of the Malayan Peninsula*, of which ten parts have so far been prepared and on which Sir George is still engaged. These, with numerous other less extensive papers have been published in the Society's *Journal* to which Sir George has been, for many years, one of the largest and most important contributors. He has also published in the *Annals of the Royal Botanic Garden* several monographs of the highest importance, notably a *Monograph of the Indo-Malayan and Chinese species of Ficus*, monographs of the genera *Quercus*, *Castanopsis*, *Artocarpus*, *Myristica* and monographs of the natural families *Magnoliaceæ* and *Anonaceæ*. These works are characterised by a rare combination of accuracy of statement, lucidity of description and happiness of arrangement that stamps their author as one of the foremost of living taxonomic botanists.

Sir George's services to Indian horticulture and to applied science have been equally great. To his wide knowledge and his administrative skill in the management of the official industries of Cinchona cultivation and Quinine manufacture is due the fact that Government is now able to place within reach of the poorest the invaluable remedies against malaria that are obtained from Cinchona bark. These services have been officially recognised by the Government of India, by the Governments of France and of Russia and by various scientific Societies, among others by the Botanical Societies of Edinburgh, of Belgium, and of Germany, by the Royal Horticultural Societies of England and of Holland, and by the Pharmaceutical Society of Great Britain and Ireland. Sir George was President of the Botanical Section of the British Association for the Advancement of Science at the annual meeting of the Association held at Dover in September, 1899.

Dr. Edward Burnett Tylor, D.C.L., LL.D., F.R.S., was educated at the School of Friends, Grove House, Tottenham. He is a very

distinguished anthropologist, and was elected a Fellow of the Royal Society in 1871. Two years later he received the honorary degree of LL.D. from the University of St. Andrews, and in 1875 that of D.C.L. from the University of Oxford, which appointed him Keeper of its Museum in 1883, and, later in the same year, Reader in Anthropology. In 1888 he became the first Gifford Lecturer in the University of Aberdeen. He has been the President of the Anthropological Institute during 1880-81, and the author of numerous works on Anthropology; the chief of these being *Anahuac, or Mexico and the Mexicans*, 1861; *Researches into the History of Mankind*, 1865; *Primitive Culture, Researches into the Development of Mythology, Philosophy, Religion, Art and Custom*, 1871; and *Anthropology, an introduction to the Study of Men and Civilisation*, 1881.

Eduard Suess, Ph.D., Professor of Geology at the University of Vienna and President of the Kais. Akademie der Wissenschaften.

He was born 20th August, 1831, at London. He is the author of a great number of scientific works and papers on geological and palæontological subjects. His work "das Antlitz der Erde" of which the 3rd and last volume is about to appear, forms one of the most important contributions to geological science.

He has always warmly befriended Indian Geologists and for years past has been actively aiding in getting the collections of Himalayan fossils described for the Government of India.

The Revd. Graham Sandberg expressed a wish to withdraw from the Society.

The Secretary reported the deaths of Deputy Surgeon-General S. B. Partridge, M.D., a Life Member, and Sir William Henry Flower, K.C.B., and Sir Edward Frankland, K.C.B., Honorary Members of the Society.

The question of resumption by the Society of its original name of "The Asiatic Society" instead of "Asiatic Society of Bengal" of which intimation has already been given by Circular to all Resident Members in accordance with Rule 64 A, were brought up for discussion previous to further circulation under Rule 64 C.

Mr. F. E. Pargiter raised certain objections, which will be circulated.

The Secretary read the following letter from the Secretary to the Government of India in the Revenue and Agricultural Department, regarding the establishment of a standard time for all India.

With reference to your letter No. $\frac{0}{477}$ dated 22nd May, 1899, regarding the establishment of a standard time for all India, I am directed

to say that after a very careful consideration of the recommendation made by the Society the Government of India have come to the conclusion that the time has not yet arrived for action such as that suggested by the Society. They consider that there would be a considerable practical difficulty in enforcing a single standard time in places like Bombay, Calcutta, Karachi or Rangoon, and they think that if it is not enforced in such places it is not worth while enforcing it in such other places of minor importance as use the local time for other than railway time.

I am at the same time to thank the Society for having brought the subject so fully and carefully to the notice of the Governor-General in Council.

The Chairman announced that the Council had elected Mr. W. K. Dods, Treasurer, in the place of Mr. R. D. Oldham, resigned, and Major L. A. Waddell, I.M.S., Anthropological Secretary in the place of Mr. L. de Nicéville.

The Chairman also announced that Messrs. M. H. Oung and W. A. Lee had been elected Members of Council of the Society.

The Chairman also announced that Major A. Alcock had been allowed leave of absence for 6 weeks and that Mr. F. Finn has agreed to carry on the duties of the General Secretary.

The Secretary reported that Mr. R. D. Oldham and the Revd. H. B. Hyde had resigned their seats on the Council of the Society.

The following papers were read:—

1. *Materials for a Carcinological Fauna of India, No. 5. The Brachyura Primigenia or Dromiacea.*—By MAJOR A. ALCOCK, I.M.S., Superintendent of the Indian Museum.

2. *A List of the Butterflies of Ceylon with notes on the various species.*—By L. DE NICÉVILLE, F.E.S.

The papers will be published in the Journal, Part II.

3. *Mammalia not hitherto recorded from the Darjeeling District and Sikkim.*—By G. C. DUDGEON, F.E.S.

Ursus malayanus, Raffles. For many years I was under the impression, in common with other observers, that only one species of bear was found in the hills round Darjeeling in spite of having constantly been assured by resident Nepalese that there were two. The larger of these they called the *Bhiun Bhálu*, viz. 'ground bear' and the smaller the *Rúkh Bhálu*, viz., 'tree bear.' Their description of the difference between these

two was that the ground bear was considerably larger and was in the habit of attacking people and killing goats and sheep besides being most destructive to crops; the tree bear, on the other hand lived almost entirely in trees and was seldom seen except in dense forest, its food being fruits and honey. I mentioned this to several people but could not procure a skin of the tree bear anywhere. One morning when fishing in the river Rungnoo, a tributary of the Great Rungeet, I saw a small bear coming down from a tree on the opposite bank, it disappeared into the jungle but crossed the stream some 50 yards below me as I afterwards found its fresh tracks on the sand. My rod carrier told me that this was a tree bear, but at the time I put it down as an immature *U. torquatus*, this species being not uncommon. I noticed that the prints showed that the claws were longer than usual in the larger species, the body appeared to be rounder and not so long as that of *U. torquatus*. The view I had of it was not a clear one and I was unable to distinguish any other peculiarity. Some years after, while on a visit to Calcutta I was shown two live bears belonging to Mr. Eigil Möller of that city; they had both been sent to him by his brother in Darjeeling and were, I believe, caught in Sikhim. One was a typical half-grown specimen *U. torquatus* but the other was a very different looking animal. It was much smaller, rounder and with shorter fur; the face showed a distinct difference in that the eyes were smaller and apparently wider apart, the forehead very rounded and the ears short; the claws also were long. I, at once realised that this must be the *Rúkh Bhálu* which I had so often heard of and which I now made out to be *Ursus malayanus*. Mr. E. Möller sent both the bears to a Zoological Society in Denmark where I believe they were recognised as *U. torquatus* and *U. malayanus*. The latter species has been recorded from Upper Burma and probably its range extends along the Bhutan Hills, to Eastern Nepal, as I am informed that the *Rúkh Bhálu* is found at Chaintpur and Elam in Nepal.

Atherura macrura, Liun. The Asiatic Brush-Tailed Porcupine. I procured a specimen of this animal at Badamtam, 3,000 feet, 8 miles north of Darjeeling in 1891. It had taken shelter in a long wooden trap made of upright stakes, which was set baited with a goat in order to catch leopards that were constantly destroying my dogs. When discovered it had dug a hole in the mud bottom of the trap to a depth of nearly 3 feet and I was probably only just in time to prevent it escaping. Its colour was dirty whitish and it was clothed with flattened short spines. The tail was long and scaly, for part of its length with a tuft of curiously formed bristles at the extremity. A second specimen was brought to me by a Lepcha in the Daling Division of Darjeeling;

he said that he had caught it at high elevation below Richi-lá, 10,000 feet. I doubt whether it occurs at this elevation. I did not take the animal from the man as I was going away for a few days but I sent him to Mr. W. Helps of Nedeem, Dooars, who bought it and I believe presented it to the Zoological Garden in Calcutta. Blanford in the Fauna of British India records it from Burma and the Malayan countries extending north to Chittagong, Tipperah and the Khasi hills.

Nemorhædus bubalinus, Hodgson, var: vel. *N. sumatrensis*, Shaw. *N. sumatrensis* is described as differing from *N. bubalinus* in the legs being rufous not white or grey near the feet. I have never seen a specimen of *N. sumatrensis* from its recorded locality but I have seen several skins and live serow in the Darjeeling district. The live ones I have come across at low elevation from 1,200 feet up to 4,000 feet and all that I have noticed had the legs rufous. In March or April, 1898, Mr. J. R. Hallifax and I were out shooting together on Pankabaree at about 1,200 to 2,000 feet elevation and he then shot a fine male which had the upper parts black turning to rufous on the sides and with the legs rufous only mixed with a few white hairs near the feet. The skull of this animal measured as under:—

Extreme length from occipital condyles to end of premaxillary bone (over curves)	inches.
Length from base of horns to end of premaxillary bone	14 $\frac{3}{8}$
Breadth of zygomatic arches	9 $\frac{1}{4}$
Length of horns	4 $\frac{1}{4}$
Spread between tips	9 $\frac{1}{4}$
Girth round base	4
	5 $\frac{3}{8}$

Mr. H. L. Crossman and Mr. W. Ager to whom I wrote asking about the colour of the legs of the animals shot by them, tell me that they have shot both forms, the red- and the white-legged, but Mr. Crossman who has kept his skins cannot say whether he shot the white ones at the higher elevations or not. This latter gentleman says that he has shot serow as low as 1,000 feet on the Mechi river. They occur in the valley of the Balasun, Rakti, Rhoni, and Pugo-Chu to my own knowledge. In the latter river I have not seen their tracks lower than 2,500 feet; but on the Rakti I have seen the live animal at 1,200 feet. Mr. Crossman has shot serow at 6,000 feet also and I believe that they are found much higher.

Mr. Hallifax and I have shot gooral, (*Cemas goral*) in the same localities down to 1,000 feet in the precipitous cliffs of the Rakti, they occur on the Mechi river right down to the cliffs bordering the Terai. In the low valleys in the interior wherever sufficiently steep ground is

found gooral and serow are found although generally looked for only in the higher hills. I think it will probably be found that *N. sumatrensis* and *N. bubalinus* are one slightly variable species as Blanford is inclined to suggest. An intermediate specimen is recorded by him as having been shot in Darjeeling by General Kinloch.

4. *On a collection of Birds from Manipur.*—By LIEUT. H. H. TURNER. Communicated by the Natural History Secretary.

The paper will be published in the Journal, Part II.

5. *The Physical Types and Affinities of the Wild Tribes of the Brahmaputra Valley.*—By MAJOR L. A. WADDELL, LL.D., I.M.S.

(ABSTRACT.)

Few of the wilder parts of the world, still left, preserve such a vast variety of savage tribes of such great ethnological interest as the mountainous valley of the mighty Brahmaputra in its course from Lower Tibet to the Bay of Bengal.

This hilly region standing up between China, India, Tibet and Burma has come to be the last refuge of scattered families of the more primitive hordes from each of these countries. Driven into these wild glens by the advance of civilization up the plains and lower valleys, these families have been hemmed in among the mountains, where pressing on each other in their struggle for existence they have developed into innumerable isolated tribes, differing widely in appearance, customs and language; and many of them are of that extremely barbarous type which is popularly associated with savage South Africa.

The little that is known about them is just sufficient to show that many of them are in a much more primitive condition than the wildest tribes of India; and that here, almost at our very doors, is a unique mine of unexplored material for yielding that very kind of unrecorded information which European scientists have shown the urgent necessity for fixing without delay, in order to solve many important problems on the origins of human customs and civilization; and in search of such material they have been ransacking the few remaining wilder parts of the world, before the surviving traces of prehistoric usage are irretrievably lost to the world.

Unfortunately for science, however, this unique mass of material in the Brahmaputra Valley, is also being allowed to disappear unrecorded. Of late years, and especially since our annexation of Upper Burma, the greater portion of this region is being opened out. Roads and railways are being rapidly pushed through amongst these hills, and the tribes which have hitherto been isolated from the outside world

are fast losing their primitive customs and adopting those of their Hinduised Assamese neighbours. And practically no steps are being taken to fix their rare vestiges of prehistoric society still surviving amongst them.

Nor has anything even been done to record the physical type of these tribes by precise measurement, so as to trace their racial elements, their affinities, and the routes and streams of their emigrations to their sources.

It is chiefly with reference to this latter, hitherto unexplored, aspect of these tribes that I here present the results of my own private labours, as a contribution towards fixing the physical type and racial affinities upon the only trustworthy basis, namely actual measurement. The vast number of these tribes, however, and the great difficulties in the way of a private individual reaching them makes the completion of this research on a sufficiently large scale to secure finality in results, quite beyond the reach of private effort.

Some explanation seems needed as to why I have attempted this huge task single-handed, and with my scant leisure, without ever having had the advantage of having been stationed officially in Assam. I undertook this self-imposed task because, although it is of such importance, no one else had attempted it; and also because I had already done so much in a similar direction in regard to the allied Himalayan tribes of Sikhim, Eastern Nepal, Bhotan and the Koch tribe of Northern Bengal. In those researches I had found that, contrary to the usually accepted opinion, the affinities of many of those tribes lay rather with the Indo-Chinese tribes of Assam than with the trans-Himalayan Tibetans. As nothing was on record practically in respect to the physical type of the former, I had therefore to devote several periods of private leave to visiting Assam specially for the purpose of supplying this deficiency. All the more so did I feel compelled to do this because of the recognised necessity that for comparative purposes it is essential that one and the same individual should if possible take all the measurements so as to avoid that prolific source of error—the different ‘personal equations’ of different observers.

Moreover, I had already personally visited and measured not only the surrounding tribes of the Eastern Himalayas above-mentioned, but also Tibetans from all parts of Tibet including the valley of the Tsang-po (that is the Upper Brahmaputra) and also most of the tribes of Burma as far up as the Kachins or ‘Singphos’ above Bhamo, on the southern confines of China and Assam. So that, on including the Brahmaputra Valley I had the unique advantage for comparative purposes of having personally measured most of the tribes from Mongolia

to Siam, and thus obtained trustworthy data for unravelling the tangled affinities and contrasts of most of the many tribes throughout this vast area.

The observations now published relate to about six hundred individuals, belonging to over thirty different tribes; and of each individual I made twenty to thirty or more measurements. The enormous labour and drudgery, not to speak of the expense, entailed in taking these physical measurements, even after reaching the tribes and securing the consent of typical members to submit to the measurement, and this usually at the end of long fatiguing marches, all this can only be appreciated by those who have ever attempted such a task.

It is claimed for my observations, that they afford for the first time exact details of the physical type of almost all the tribes of the Brahmaputra Valley; and for the first time in India, apparently, a record of the colour of the skin and eyes—all of which data are strictly comparable, in that they have all been made with scrupulous care by the same observer. And the physical type is also freely illustrated by photographs, mostly taken by myself.

The paper will be published in full in the *Journal*, Part III.







PROCEEDINGS
OF THE
ASIATIC SOCIETY OF BENGAL,
FOR DECEMBER, 1899.

The Monthly General Meeting of the Society was held on Wednesday, the 6th December, 1899, at 9 P.M.

COLONEL T. H. HENDLEY, C.I.E., I.M.S., Vice-President, in the chair.

The following members were present:—

Major A. Alcock, I.M.S., Mr. E. C. S. Baker, Mr. J. Bathgate, Dr. T. Bloch, Mr. W. K. Dods, Mr. F. Finn, The Revd. Father E. Francotte, S.J., Mr. E. B. Havell, Mr. T. H. Holland, Mr. D. Hooper, Mr. G. W. Kùchler, Kumar Rameswar Maliah, Mr. L. de Nicéville, Mr. H. Stark, Dr. M. A. Stein.

Visitors:—Mr. W. H. Gelling, Mr. E. Kinnison, Mr. C. Michie, Mr. G. H. Turton, Mr. D. B. Wallace.

The minutes of the last meeting were read and confirmed.

Sixty presentations were announced.

Captain W. F. O'Connor, R.A., and Mr. J. G. Lorimer, I.C.S., were balloted for and elected Ordinary Members.

Professor E. Ray Lankester, M.A., LL.D., F.R.S., Sir George King, K.C.I.E., LL.D., F.R.S., Professor E. B. Tylor, D.C.L., LL.D., F.R.S., and Professor E. Suess, Ph.D., were balloted for and elected Honorary Members.

The Secretary reported the death of Mr. J. H. Gilliland.

The Chairman announced that Major A. Alcock, I.M.S., having returned from leave, had taken over charge of the duties of General Secretary from Mr. F. Finn.

The following papers were read:—

1. *Akakiu: an ancient Eastern Medicine.*—By DAVID HOOPER, F.C.S.

2. *Notes on the Ploceidæ.*—By F. FINN, B.A., F.Z.S., *Deputy Superintendent of the Indian Museum.*

3. *On a new Genus of Butterflies from Western China allied to Vanessa.*—By L. DE NICÉVILLE, F.E.S., C.M.Z.S.

The papers will be published in the Journal, Part II.

4. *A Primer of the Asur dukmā, a dialect of the Kolarian language.*—By THE REV. DR. FERDINAND HOHN, *German Evangelical Mission, Chotu Nagpur.* Communicated by DR. G. A. GRIERSON, C.I.E.

5. *A Revision of the Symbols on the Karṣṣapaṇa Coinage, and descriptions of many additional symbols.*—By W. THEOBALD, M.N.S.L. Communicated by MR. C. L. GRIESBACH, C.I.E.

6. *Five new Copper-plate inscriptions from Sumbalpur.*—By BIJOY CHANDRA MAZUMDAR. Communicated by the *Philological Secretary.*

7. *The story of gSerribuzhung 'the golden son.' A Ladakhi Tale.*—By THE REV. DR. E. SHAWE AND A. H. FRANKE, *Moravian Missionaries, Leh.* Communicated by the *Philological Secretary.*

The papers will be published hereafter in the Journal, Part I.

The Secretary reported, as a caution to Members using the Library, that for protection against insects he had caused all the books to be poisoned with a spirit solution of corrosive sublimate.

LIBRARY.

The following additions have been made to the Library since the meeting held in December 1898:—

TRANSACTIONS, PROCEEDINGS AND JOURNALS,

presented by the respective Societies and Editors.

Adelaide. Cent. Austr. Explor. Exped., 1889., Journ; Roy. Geogr. Soc., Proc., Vol. III.

Algiers. Soc. Geogr., Bull., T. III, Nos. 3-4.

Amsterdam. K. Akad. Wetensch., Jaarb., 1897; Verhand., Afd. Letterk., N.R., Dl. II, Nos. 1-2; Afd. Natuurk., 1^e Sectie, Dl. VI, Nos. 1-5., 2^e Sectie, VI, 1-2; Versl. en Meded., Afd. Letterk., 4^{de} Reeks, Dl. I-II; Afd. Natuurk., Dl. VI.

Angers. Soc. d' Etudes Scient., Bull., T. XXVII.

Batavia. Genootsch. Kunst en Wetensch., Notulen, Bd. XXXVI, Nos. 3-4., XXXVIII, 1-2; Register, 1889-98; Tijdschr. Ind. T. L. en Vk., Dl. XL, Nos. 5-6., XLI, 1-4.

- Baltimore.** Johns Hopkins Univ., Amer. Chem. Journ., Vols. XX, Nos. 2-10., XXI, 1-5; Amer. Journ. Math., Vols. XX, Nos. 2-4, XXI, 1-2; Amer. Journ. Phil., Vols. XVIII, Nos. 2-4., XIX, 1-4; Circulars, Vol. XVIII, Nos. 137-141; Mem. Biol. Lab., Vol IV, Nos. 1-2; Studies Hist. Pol. Sci., XVI Ser., Nos. 1-12., XVII, 1-5.
- Berlin.** Entom. Zeitschr., Bd. XLIII, Nos. 1-4., XLIV, 1-2; Gesellsch. Naturf. Freunde, Sitzungsber., 1898; K. Preuss. Akad. Wissensch., Abhandl., 1898; Sitzungsber., Nos. 40-54, 1898., 1-38, 1899; Preuss. Meteorol. Institut., Magnetische Beobachtungen, 1892-93.
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OF THE
ASIATIC SOCIETY OF BENGAL.
ON THE 31ST DECEMBER, 1899.

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1894 Sept. 27.	N.R.	Abdul Wali, Maulvie. <i>Sailkopa, Jessore District.</i>
1895 May 1.	N.R.	Abdus Salam, Maulvie, M.A. <i>Monghyr.</i>
1888 Feb. 1.	F.M.	Adamson, Lieut.-Col. Charles Henry Ellison, M.S.C. <i>Europe.</i>
1895 Aug. 29.	A.	Agnew, Henry De Courcy. <i>Europe.</i>
1888 April 4.	R.	Ahmud, Shams-ul-ulama Maulvie, Arabic Professor, Presidency College. <i>Calcutta.</i>
1888 Feb. 1.	R.	Alcock, Major Alfred William, M.B., C.M.Z.S., F.G.S. I.M.S., Superintendent, Indian Museum. <i>Calcutta.</i>
1885 Mar. 4.	N.R.	Ali Bilgrami, Sayid, B.A., A.R.S.M., F.G.S. <i>Hyderabad.</i>
1899 Jan. 4.	N.R.	Ali Hussain Khan, Nawab. <i>Bopal.</i>
1874 June 3.	R.	Amir Ali, The Hon. Mr. Justice, M.A., C.I.E., Barrister-at-Law, Judge, High Court. <i>Calcutta.</i>
1893 Aug. 31.	N.R.	Anderson, Captain A. R. S., B.A., M.B., I.M.S., <i>Chittagong.</i>
1865 Jan. 11.	F.M.	Anderson, John, M.D., F.R.S., F.L.S. <i>Europe.</i>
1884 Sept. 3.	A.	Anderson, J. A. <i>Europe.</i>
1892 Jan. 6.	A.	Arnold, Henry Kerchever Walter. <i>Europe.</i>
1890 July 2.	N.R.	Arnold, Thomas Walker, B.A., M.R.A.S. <i>Lahore.</i>
1872 April 3.	N.R.	Ashan-ullah, Nawab, Khan Bahadur. <i>Dacca.</i>
1889 Aug. 29.	N.R.	Aziz-ud-din Ahmad, Deputy Magistrate. <i>Aligarh.</i>
1870 Feb. 2.	L.M.	Baden-Powell, Baden Henry, M.A., C.I.E. <i>Europe.</i>
1898 Nov. 2.	N.R.	Bailey, The Revd. Thomas Grahame, M.A., B.D. <i>Wuzirabad.</i>

Date of Election.		
1891 Mar. 4.	N.R.	Baillie, D. C., I.C.S. <i>Allahabad.</i>
1898 Aug. 3.	N.R.	Bain, Major D. W. S., I.M.S. <i>Mercara.</i>
1891 April 1.	N.R.	Baker, Edward Charles Stuart. <i>North Cachar.</i>
1889 May 1.	R.	Banerji, The Hon. Mr. Justice Guru Das, M.A., D.L., Judge, High Court. <i>Calcutta.</i>
1896 Mar. 4.	N.R.	Banerji, Satish Chandra, M.A. <i>Allahabad.</i>
1869 Dec. 1.	L.M.	Barker, R. A., M.D. <i>Europe.</i>
1885 Nov. 4.	R.	Barman, Damodar Das. <i>Calcutta.</i>
1877 Jan. 17.	N.R.	Barman, H. H. The Maharaja Radha Kishor Dev. <i>Tipperah.</i>
1898 Mar. 2.	N.R.	Barnes, Herbert Charles, I.C.S. <i>Shillong.</i>
1894 Sept. 27.	R.	Basu, Nagendra Natha. <i>Calcutta.</i>
1898 May 4.	R.	Bathgate, J. <i>Calcutta.</i>
1895 July 3.	L.M.	Beatson-Bell, Nicholas Dodd, B.A., I.C.S. <i>Backergunge.</i>
1876 Nov. 15.	N.R.	Beveridge, Henry., I.C.S., (retired). <i>Allahabad.</i>
1896 May 6.	R.	Bhaduri, Aghore Chandra. <i>Calcutta.</i>
1878 Oct. 4.	R.	Bhakta, Krishna Gopal. <i>Calcutta.</i>
1898 Nov. 2.	N.R.	Black, Robert Greenhill. <i>Cachar.</i>
1859 Aug. 3.	L.M.	Blanford, William Thomas, LL.D., A.R.S.M., F.G.S., F.R.G.S., F.Z.S., F.R.S. <i>Europe.</i>
1897 Feb. 3.	R.	Bloch, Theodor, PH.D. <i>Calcutta.</i>
1893 Feb. 1.	N.R.	Bodding, The Revd. P. O. <i>Rampore Haut.</i>
1885 Mar. 4.	R.	Bolton, The Hon. Mr. Charles Walter, C.S.I., I.C.S. <i>Calcutta.</i>
1895 July 3.	R.	Bonham-Carter, Norman, I.C.S. <i>Calcutta.</i>
1890 July 2.	R.	Bonnerjee, Womes Chunder, Barrister-at-Law, Middle Temple. <i>Calcutta.</i>
1897 June 2.	R.	Bose, Annada Prasad, M.A. <i>Calcutta.</i>
1895 Mar. 6.	R.	Bose, Jagadis Chandra, M.A., D.Sc., Bengal Education Service. <i>Calcutta.</i>
1880 Nov. 3.	N.R.	Bose, Pramatha Nath, B.Sc., F.G.S., Geological Survey of India. <i>Camp Raipur, C.I.</i>
1890 Dec. 3.	N.R.	Bose, Rai Nali Naksha, Bahadur, Chairman, Burdwan Municipality. <i>Burdwan.</i>
1895 April 3.	N.R.	Bourdillon, James Austin, C.S.I., I.C.S. <i>Bankipur.</i>
1860 Mar. 7.	L.M.	Brandis, Sir Dietrich, K.C.I.E., PH.D., F.I.S., F.R.S. <i>Europe.</i>
1887 May 4.	R.	Bural, Nobin Chand, Solicitor. <i>Calcutta.</i>
1896 Jan. 8.	N.R.	Burn, Richard, I.C.S. <i>Allahabad.</i>
1898 Sept. 30.	R.	Cable, Ernest. <i>Calcutta.</i>
1896 Jan. 8.	R.	Caddy, Dr. Arnold. <i>Calcutta.</i>
1895 July 3.	N.R.	Carey, Hirzel Denis de Mussenden, I.C.S. <i>Cuttack.</i>
1895 July 3.	R.	Carlyle, Robert Warrand, C.I.E., I.C.S. <i>Calcutta.</i>
1896 Nov. 4.	A.	Cave-Browne, J. A., I.C.S. <i>Europe.</i>
1890 June 4.	N.R.	Chakravarti, Man Mohan, M.A., B.L., Deputy Magistrate. <i>Gya.</i>
1898 Nov. 2.	R.	Chatterjea, Kishori Mohan, Judge, Court of Small Causes. <i>Calcutta.</i>

Date of Election.		
1894 Aug. 1.	N.R.	Chatterjee, M. N. <i>Patalia.</i>
1893 July 5.	N.R.	Chatterjee, Radhika Raman. <i>Rungpur.</i>
1892 Aug. 3.	N.R.	Chaube, Behary Lall. <i>Bankipur.</i>
1893 Sept. 28.	N.R.	Chandhuri, Banawari Lala, B.Sc. Edin. <i>Sherpur, Mymensingh.</i>
1880 Nov. 3.	R.	Chandhuri, Rai Khirod Chandra. <i>Chinsurah.</i>
1899 Jan. 4.	A.	Clemow, Dr. Frank Gerard, M.D., Edin, D P.H., Camb. <i>Europe.</i>
1880 Aug. 26.	F.M.	Clerk, Colonel Malcolm G. <i>Europe.</i>
1881 May 4.	N.R.	Cockburn, John, Opium Department. <i>Etawah.</i>
1889 Nov. 6.	R.	Colville, William Brown. <i>Calcutta.</i>
1890 Dec. 3.	A.	Connan, William, C.E. <i>Europe.</i>
1898 June 1.	R.	Cordier, Dr. Palmyr. <i>Chandernagore.</i>
1899 Feb. 1.	N.R.	Cotton, Julian James, B.A., I.C.S. <i>Madras.</i>
1876 Mar. 1.	F.M.	Crawfurd, James, B.A., I.C.S. <i>Europe.</i>
1887 Aug. 25.	R.	Criper, William Risdon, F.C.S., F.I.C., A.R.S.M. <i>Calcutta.</i>
1877 June 6.	A.	Croft, Sir Alfred W., M.A., K.C.I.E. <i>Europe.</i>
1895 July 3.	N.R.	Cumming, John Ghest, I.C.S. <i>Bhagalpur.</i>
1898 Aug. 26.	N.R.	Cuppige, Captain W. A., I.S.C. <i>Bombay.</i>
1873 Dec. 3.	F.M.	Dames, Mansel Longworth, I.C.S. <i>Europe.</i>
1892 Mar. 2.	N.R.	Das, Gopal Ballabh, M.A. <i>Cuttack.</i>
1896 Mar. 4.	R.	Das-Gupta, Jogendra Nath, B.A., Barrister-at-Law. <i>Calcutta.</i>
1865 June 7.	N.R.	Das, Raja Jay Krishna, Bahadur, C.S.I. <i>Moradabad.</i>
1879 April 7.	N.R.	Das, Ram Saran, M.A., Secy., Oudh Commercial Bank, Limited. <i>Fyzabad, Oudh.</i>
1896 Dec. 2.	A.	Davis, Arthur William, I.C.S. <i>Europe.</i>
1893 Nov. 1.	N.R.	De, Brajendra Nath, M.A., I.C.S. <i>Bankura.</i>
1885 May 6.	N.R.	De, Raja Baikunta Nath, Bahadur. <i>Balasore.</i>
1895 Sept. 19.	N.R.	De, Kiran Chandra, B.A., I.C.S. <i>Dinagepur.</i>
1895 Dec. 4.	N.R.	Delmerick, Charles Swift. <i>Budaon.</i>
1893 Mar. 1.	F.M.	Deussen, Dr. Paul. <i>Europe.</i>
1899 Aug. 30.	N.R.	Dev, Raj Kumar Satchidanand, Bahadur. <i>Deogarh, Sambalpur.</i>
1896 Jan. 8.	N.R.	Dewhurst, R. Paget., I.C.S. <i>Fatehgarh.</i>
1899 Aug. 30.	R.	Dods, W. <i>Calcutta.</i>
1898 Jan. 5.	R.	Dods, W. K. <i>Calcutta.</i>
1886 June 2.	R.	Doyle, Patrick, C.E., F.R.A.S., F.R.S.E., F.G.S. <i>Calcutta.</i>
1892 Sept. 22.	R.	Drury, Major Francis James, M.B., I.M.S. <i>Calcutta.</i>
1889 Jan. 2.	N.R.	Dudgeon, Gerald Cecil, Holta Tea Co., Ltd., <i>Palampur.</i>
1879 Feb. 5.	N.R.	Duthie, J. F., B.A., F.L.S. <i>Saharanpur.</i>
1892 Jan. 6.	N.R.	Dutt, Gerindra Nath. <i>Hatwa.</i>
1877 Aug. 30.	R.	Dutt, Kedar Nath. <i>Calcutta.</i>
1892 Aug. 25.	R.	Dutt, Rai Narsingh Chunder, Bahadur. <i>Howrah.</i>

Date of Election.		
1890 Sept. 25.	A.	Dutt, Romesh Chunder, C.I.E., I.C.S. (retired), Barrister-at-Law, Middle Temple. <i>Europe.</i>
1870 Mar. 9.	L.M.	Edinburgh, H. R. H. The Duke of. <i>Europe.</i>
1871 Dec. 2.	N.R.	Eliot, John, M.A., C.I.E., F.R.S. Meteorological Reporter to the Government of India. <i>Simla.</i>
1899 Jan. 4.	A.	Ferrar, Lieutenant, M. LL., I.S.C. <i>Europe.</i>
1894 Dec. 5.	R.	Finn, Frank, B.A., F.Z.S., Deputy Superintendent, Indian Museum. <i>Calcutta.</i>
1898 Sept. 30.	R.	Firminger, The Revd. Walter K., M.A. <i>Calcutta.</i>
1892 May 4.	A.	Forrest, G. W., B.A. <i>Europe.</i>
1876 July 5.	N.R.	Foulkes, The Revd. Thomas, F.L.S., M.R.A.S., F.R.G.S. <i>Salem, Madras Presidency.</i>
1893 Jan. 11.	A.	Gait, Edward Albert, I.C.S. <i>Europe.</i>
1899 Aug. 30.	R.	Garth, Dr. H. C. <i>Calcutta.</i>
1859 Aug. 3.	L.M.	Gastroll, General James Eardley. <i>Europe.</i>
1889 Jan. 2.	R.	Ghose, Jogendra Chandra, M.A., B.L. <i>Calcutta.</i>
1889 Mar. 6.	R.	Ghosha, Bhupendra Sri, B.A., B.L. <i>Calcutta.</i>
1869 Feb. 3.	R.	Ghosha, Pratapa Chandra, B.A. <i>Calcutta.</i>
1897 Dec. 6.	N.R.	Godfrey, Captain Stuart, I.S.C. <i>Kashmir.</i>
1861 Feb. 5.	N.S.	Godwin-Austen, Lient.-Colonel H. H., F.R.S., F.Z.S., F.R.G.S. <i>Europe.</i>
1899 Aug. 2.	R.	Goenka, Roomall. <i>Calcutta.</i>
1890 Aug. 6.	R.	Goethals, The Most Revd. Paul, D.D., S.J., Archbishop. <i>Calcutta.</i>
1896 Nov. 4.	F.M.	Grant, A. J., I.C.S. <i>Europe.</i>
1897 July 7.	N.R.	Grant, Lieut. J. W., I.M.S. <i>Sirohes.</i>
1898 Aug. 3.	N.R.	Green, Major Charles Robert Mortimer, F.R.C.S. I.M.S. <i>Muzaffarpur.</i>
1892 Aug. 25.	N.R.	Groeven, R., I.C.S. <i>Benares.</i>
1876 Nov. 15.	F.M.	Grierson, George Abraham, Ph.D., C.I.E., I.C.S. <i>Europe.</i>
1885 Dec. 2.	R.	Griesbach, C. L., C.I.E., F.G.S., Director, Geological Survey of India. <i>Calcutta.</i>
1898 June 1.	R.	Gupta, Bepin Behari. <i>Calcutta.</i>
1898 April 6.	R.	Gupta, Krishna Govinda, I.C.S., Barrister-at-Law. <i>Calcutta.</i>
1888 July 4.	R.	Gupta, Rajani Kanta. <i>Calcutta.</i>
1898 Jan. 5.	N.R.	Gurdon, Captain P. R. T., I.S.C. <i>Gauhati.</i>
1892 Jan. 6.	N.R.	Haig, Captain Wolseley., I.S.C. <i>Berar.</i>
1899 Nov. 1.	N.R.	Hamilton, R. C., I.C.S. <i>Darbhanga.</i>
1883 Jan. 3.	N.R.	Harding, Francis Henry, B.A., I.C.S. <i>Shahabad.</i>
1899 April 5.	N.R.	Hare, Major E.C., I.M.S. <i>Yokohama, Japan.</i>
1884 Mar. 5.	L.M.	Hassan Ali Qadr, Sir Syud, Nawab Bahadur, K.C.I.E. <i>Murshedabad.</i>
1898 Feb. 2.	R.	Havell, Ernest Binfield. <i>Calcutta.</i>
1897 Feb. 3.	R.	Hayden, H. H., Geological Survey of India. <i>Calcutta.</i>

Date of Election.		
1875 Mar. 3.	R.	Hendley, Col. Thomas Holbein, C.I.E., I.M.S., Inspector General of Civil Hospitals, Bengal. <i>Calcutta.</i>
1892 Aug. 3.	R.	Hill, Samuel Charles, B.A., B.Sc. <i>Calcutta.</i>
1872 Dec. 5.	A.	Hoernle, Augustus Frederick Rudolf, PH.D., C.I.E. <i>Europe.</i>
1878 Mar. 6.	N.R.	Hoey, W., PH.D., I.C.S. <i>Gorakhpur.</i>
1891 July 1.	R.	Holland, Thomas H., F.G.S., A.R.C.S., Geological Survey of India. <i>Calcutta.</i>
1898 Feb. 2.	R.	Hooper, David, F.C.S. <i>Calcutta.</i>
1884 Mar. 5.	N.R.	Hooper, John, B.A., I.C.S. <i>Allahabad. N.-W.P.</i>
1873 Jan. 2.	L.M.	Houstoun, G. L., F.G.S. <i>Europe.</i>
1890 Dec. 3.	N.R.	Hyde, The Revd. Henry-Barry, M.A. <i>Madras.</i>
1866 Mar. 7	F.M.	Irvine, William, I.C.S., (retired). <i>Europe.</i>
1899 April 5.	R.	Kemphorne, H. E. <i>Calcutta.</i>
1895 Dec. 4.	R.	Kennedy, Joseph, I.C.S. <i>Hughli.</i>
1882 Mar. 1.	N.R.	Kennedy, Pringle, M.A. <i>Mozufferpur.</i>
1874 Dec. 2.	N.R.	Khuda Baksh, Maulvie, Khan Bahadur. <i>Bankipur.</i>
1867 Dec 4.	A.	King, Sir George, M.B., C.I.E., K.C.S.I., F.L.S., I.M.S., (retired). <i>Europe.</i>
1881 Mar. 2.	N.R.	King, Lucas White, B.A., LL.B., C.S.I., I.C.S. <i>Kohat.</i>
1896 Aug. 27.	A.	Konstam, Edwin Max, I.C.S. <i>Europe.</i>
1896 July 1.	R.	Küchler, George William, M.A. <i>Calcutta.</i>
1891 Feb. 4.	N.R.	Kupper, Raja Lala Bunbehari. <i>Burdwan.</i>
1893 July 1.	R.	Laharry, Sarat Chandra, PH.D. <i>Calcutta.</i>
1899 Aug. 30.	N.R.	Lal, Dr. Mannu. <i>Lucknow.</i>
1887 May 4.	L.M.	Lanman, Charles R. <i>Europe.</i>
1889 Mar. 6.	R.	LaTouche, Thomas Henry Digges, M.A., Geological Survey of India. <i>Calcutta.</i>
1889 Nov. 6.	R.	Lee, W. A., F.R.M.S. <i>Calcutta.</i>
1889 Feb. 6	R.	Little, Charles, M.A., Bengal Education Service. <i>Calcutta.</i>
1899 Dec. 6.	R.	Lorimer, J. G., I.C.S. <i>Calcutta.</i>
1869 July 7.	F.M.	Lyall, Sir Charles James, M.A., K.C.S.I., C.I.E., LL.D., I.C.S., (retired). <i>Europe.</i>
1870 April 7.	L.M.	Lyman, B. Smith. <i>Europe.</i>
1896 Mar. 4.	N.R.	MacBlaine, Frederick, I.C.S. <i>Purneah.</i>
1893 Jan. 11.	L.M.	MacLagan, E. D., M.A., I.C.S. <i>Multan.</i>
1891 Feb. 4.	R.	Macpherson, Duncan James, M.A., C.I.E., I.C.S. <i>Calcutta.</i>
1896 Feb. 5.	N.R.	Macpherson, William Charles, I.C.S. <i>Chupra.</i>
1893 Aug. 31.	N.R.	Mahatha, Purnmeshwar Narain. <i>Mozufferpur.</i>
1895 Aug. 29.	R.	Mahomed Gilani, Shams-ul-Ulama Shaikh. <i>Calcutta.</i>
1886 Jan. 6.	N.R.	Mahomed Latif Khan, Sayid, Khan Bahadur. <i>Jullunder.</i>

Date of Election.			
1898 Nov. 2.	N.R.	Maitra, Akshaya Kumar, B.A., B.L.	<i>Rajshahi.</i>
1889 Jan. 2.	R.	Maliah, Kumar Rameswar.	<i>Howrah.</i>
1893 July 5.	R.	Mangos, C. D.	<i>Calcutta.</i>
1889 Mar. 6.	A.	Mann, John, M.A.	<i>Europe.</i>
1893 Mar. 1.	N.R.	Marriott, Charles Richardson, I.C.S.	<i>Bankipur.</i>
1892 April 6.	N.R.	Maynard, Major F. P., I.M.S.	<i>Ranchi.</i>
1899 Feb. 1.	N.R.	McMahon, Captain A. H., C.S.I., C.I.E., I.S.C.	<i>Malahand.</i>
1899 Mar. 1.	N.R.	McMinn, C. W., B.A., I.C.S., (retired).	<i>Comilla.</i>
1886 Mar. 3.	L.M.	Mehta, Rustomjee Dhunjeebhoy, C.I.E.	<i>Calcutta.</i>
1895 July 3.	N.R.	Melitus, Paul Gregory, C.I.E., I.C.S.	<i>Shillong.</i>
1884 Nov. 5.	R.	Middlemiss, C. S., B.A., Geological Survey of India.	<i>Calcutta.</i>
1884 Sept. 3.	R.	Miles, William Harry.	<i>Calcutta.</i>
1870 July 6.	R.	Miller, Albert Birmingham, B.A., Barrister-at-Law, Official Trustee.	<i>Calcutta.</i>
1898 April 6.	R.	Milne, Captain C. J., I.M.S.	<i>Calcutta.</i>
1874 May 6.	N.R.	Minchin, F. J. V.	<i>Aska, Ganjam.</i>
1896 July 1.	N.R.	Misra, Rai Lakshmi Sanker, Bahadur.	<i>Benares.</i>
1897 Jan. 6.	N.R.	Misra, Tulsi Ram.	<i>Aligarh.</i>
1899 Mar. 1.	R.	Mitra, J. C., M.A., B.L.	<i>Calcutta.</i>
1895 Mar. 6.	N.R.	Mitra, Rajeswar.	<i>Nagpur.</i>
1897 Nov. 3.	R.	Mitra, Saroda Churan, M.A., B.L.	<i>Calcutta.</i>
1890 Dec. 3.	N.R.	Mitra, Varada Charana, I.C.S., Joint-Magistrate.	<i>Farridpur.</i>
1895 July 3.	N.R.	Monahan, Francis John, I.C.S.	<i>Shillong.</i>
1898 May 4.	R.	Mookerjee, R. N.	<i>Calcutta.</i>
1898 Sept. 30.	R.	Moore, The Revd. Herbert Octavius, M.A.	<i>Calcutta.</i>
1879 May 7.	A.	Muir, J. W., M. A., I. C. S., (retired).	<i>Europe.</i>
1885 July 1.	R.	Mukerjea, Mahamahopadhyaya Nilmani, Principal, Sanskrit College.	<i>Calcutta.</i>
1867 Mar. 6.	R.	Mukerjea, Raja Peari Mohan, M.A., C.S.I.	<i>Uttarpara.</i>
1894 Aug. 30.	R.	Mukerjee, Sib Narayan.	<i>Uttarpara.</i>
1899 Sept. 29.	R.	Mukharji, Jotindra Nath, B.A.	<i>Calcutta.</i>
1886 May 5.	R.	Mukhopadhyaya, The Hon. Dr. Asutosh, M.A., D.L., F.R.A.S., F.R.S.E.	<i>Calcutta.</i>
1892 Dec. 7.	R.	Mukhopadhyaya, Panchanana.	<i>Calcutta.</i>
1896 April 1.	R.	Mullick, Sham Lall.	<i>Calcutta.</i>
1885 June 3.	N.R.	Naemwoollah, Maulvie, Deputy Magistrate.	<i>Cawnpur.</i>
1881 Nov. 2.	R.	Nicéville, Lionel de, F.E.S., C.M.Z.S.	<i>Calcutta.</i>
1889 Aug. 29.	L.M.	Nimmo, John Duncan.	<i>Calcutta.</i>
1894 June 6.	N.R.	Nomani, Shams-ul-Ulama Maulvie Muhammad, Professor of Arabic in the Muhammadan Oriental College.	<i>Aligarh.</i>
1892 Oct. 27.	N.R.	Norvill, Dr. Frederic H.	<i>Dibrugarh.</i>
1885 Feb. 4.	R.	Nyayaratna, Mahamahopadhyaya Mahesa Chandra, C.I.E.	<i>Calcutta.</i>

Date of Election		
1899 Jan. 7.	N.R.	O'Brien, P. H., I.C.S. <i>Purneah.</i>
1899 Dec. 6.	N.R.	O'Connor, Captain W. F., R.A. <i>Astor, Kashmir.</i>
1879 Aug. 28.	A.	Oldham, Dr. C. F., F.R.G.S. <i>Europe.</i>
1880 Dec. 1.	A.	Oldham, R. D., A.R.S.M., F.G.S., Geological Survey of India. <i>Europe.</i>
1883 Aug. 30.	F.M.	Oliver, Edw. Emmerson, M.I.C.E. <i>Europe.</i>
1887 July 6.	R.	Oung, Moung Hla. <i>Calcutta.</i>
1880 Aug. 4.	L.M.	Pandia, Pandit Mohanlall Vishnulall, F.T.S., <i>Muttra.</i>
1880 Jan. 7.	R.	Pargiter, Frederick Eden, B.A., I.C.S. <i>Calcutta.</i>
1899 Aug. 2.	R.	Peake, C. W., M.A., Bengal Education Service. <i>Calcutta.</i>
1873 Aug. 6.	R.	Pedler, Alexander, F.R.S., Director of Public Instruction, Bengal. <i>Calcutta.</i>
1888 June 6.	L.M.	Pennell, Aubray Percival, B.A., I.C.S. <i>Europe.</i>
1881 Aug. 25.	R.	Percival, Hugh Melville, M.A., Bengal Education Service. <i>Calcutta.</i>
1877 Aug. 1.	N.R.	Peters, Lieut.-Colonel C. T., M.B., I.M.S. <i>Bombay.</i>
1889 Nov. 6.	N.R.	Phillott, Capt. D. C., I.S.O. <i>Dera Ghazi Khan.</i>
1896 Jan. 8.	N.R.	Place, George William, B.A., LL.B., I.C.S. <i>Bankipur.</i>
1889 Mar. 6.	R.	Prain, Major David, M.A., M.B., I.M.S., Royal Botanic Garden. <i>Sibpur.</i>
1889 Mar. 6.	N.R.	Prasad, Hanuman, Raes and Zemindar. <i>Chunar.</i>
1896 Sept. 25.	F.M.	Pringle, A. T. <i>Europe.</i>
1880 April 7.	R.	Rai, Bipina Chandra, B.L. <i>Serampore.</i>
1895 Aug. 29.	R.	Rai, Jatindra Nath Chaudhery, M.A., B.L. <i>Barnagor.</i>
1898 Aug. 3.	N.R.	Ram, Sita, M.A. <i>Cawnpore.</i>
1895 Aug. 7.	R.	Ray, Mahendra Nath, M.A., B.L. <i>Howrah.</i>
1890 Mar. 5.	R.	Ray, Prafulla Chandra, D.Sc., Bengal Education Service. <i>Calcutta.</i>
1887 May 4.	R.	Ray, Prasanna Kumar, D.Sc. (Lond. and Edin.), Bengal Education Service. <i>Calcutta.</i>
1884 Mar. 5.	R.	Risley, Herbert Hope, B.A., C.I.E., I.C.S. <i>Calcutta.</i>
1896 Dec. 2.	N.R.	Row, B. Suryanaran, B.A. <i>Bellary.</i>
1895 Mar. 6.	A.	Rowe, Frederick James, M.A. <i>Europe.</i>
1889 June 5.	N.R.	Roy, Maharaja Girjanath. <i>Dinagepur.</i>
1885 Mar. 4.	R.	Rustomjee, Harjeebhoy Manickjee. <i>Calcutta.</i>
1893 Aug. 2.	R.	Samajpati, Suresh Chundra. <i>Calcutta.</i>
1896 Aug. 27.	R.	Samman, Herbert Frederick, I.C.S. <i>Howrah.</i>
1899 June 7.	N.R.	Sarkar, Chandra Kumar. <i>Benares.</i>
1898 Mar. 2.	N.R.	Sarkar, Jadu Nath. <i>Bankipur.</i>
1885 Mar. 4.	R.	Sarvadhikari, Rajkumar, Rai Bahadur. <i>Calcutta.</i>
1897 Nov. 3.	R.	Saunders, C. <i>Calcutta.</i>
1893 Jan. 11.	L.M.	Scindia, His Highness the Maharaja. <i>Gwalior.</i>
1899 Mar. 1.	R.	Scott, Lieutenant Bernard, I.S.C. <i>Barrackpore.</i>
1896 April 1.	A.	Sen, Guru Prasad. <i>Europe.</i>
1885 April 1.	R.	Sen, Narendranath. <i>Calcutta.</i>

Date of Election.		
1885 April 1.	R.	Sen, Yadu Nath. <i>Calcutta.</i>
1897 Dec. 1.	R.	Seth, M. J. <i>Calcutta.</i>
1885 Feb. 4.	R.	Shastri, Mahamahopadhaya Hara Prasad, M.A. <i>Calcutta.</i>
1891 June 3.	A	Shillingford, Frederick Alexander. <i>Europe.</i>
1899 May 3.	N.R.	Silberrad, Chas. A., I.C.S. <i>Lalitpur, Bundelkhand.</i>
1887 April 6.	A.	Simpson, Dr. W. J. <i>Europe.</i>
1893 Mar. 1.	N.R.	Singh, Maharaja Kumara Sirdar Bharat, I.C.S. <i>Rai Bareilly.</i>
1880 June 2.	N.R.	Singh, Thakur Garuradhawaya Prasad, Raja of Beswan. <i>Beswan Fort, Aligarh.</i>
1895 Aug. 29	R.	Singh, Lachmi Narayan, M.A., B.L. <i>Calcutta.</i>
1892 Mar. 2.	L M	Singh, The Hon. Raja Ooday Pratab. <i>Binga.</i>
1889 Aug. 29.	N.R.	Singh, H. H. The Maharaja Prabhu Narain, Bahadur. <i>Benares.</i>
1892 Aug. 3.	N.R.	Singh, H. H. The Hon. Maharaja Pratap Narain. <i>Ajodhya, Oudh.</i>
1895 Aug. 29	N.R.	Singh, Ram Din. <i>Bankipur.</i>
1889 Nov. 6.	N.R.	Singh, H. H. The Hon. Maharaja Rameshwara, Bahadur. <i>Darbhanga.</i>
1894 Feb. 7.	N.R.	Singh, H. H. Raja Vishwa Nath, Bahadur, Chief of Chhatarpur.
1893 April 5.	N.R.	Sinha, Raja Bhupendra, Bahadur, Raja of Bijoypur. <i>Mirzapur.</i>
1894 July 4.	N.R.	Sinha, Kunwar Kushal Pal, M.A. <i>Narki P.O. Agra District.</i>
1899 June 7.	N.R.	Sinha, Purnenda Narayan. <i>Bankipur.</i>
1867 April 3.	R.	Sircar, Dr. Mahendra Lal, M.D., C.I.E., D.L. <i>Calcutta.</i>
1897 Jan. 6.	R.	Sircar, Amrita Lal, F.C.S. <i>Calcutta.</i>
1872 Aug. 5.	N.R.	Skrefsrud, The Revd. Laurentius Olavi. <i>Rampur Hat.</i>
1874 June 3.	N.R.	Smith, Vincent Arthur, I.C.S. <i>Gorakhpur.</i>
1899 Nov. 1.	N.R.	Srivastavya, Lala Shyam Sunder Lal. <i>Pertabgarh.</i>
1898 April 6.	R.	Stark, Herbert, B.A. <i>Calcutta.</i>
1891 Aug. 27.	R.	Stein, M. A., PH.D. <i>Calcutta.</i>
1895 July 5.	A.	Steinberg, Alfred Frederick, I.C.S. <i>Europe.</i>
1899 Aug. 30.	R.	Stephen, St. John, B.A., LL.B. <i>Calcutta.</i>
1898 June 1.	N.R.	Sunder, Donald. <i>Patna.</i>
1899 Mar. 1.	R.	Tocher, A. <i>Calcutta.</i>
1868 June 3.	R.	Tagore, The Hon. Maharaja Sir Jotendra Mohun, Bahadur, K.C.S.I. <i>Calcutta.</i>
1898 April 6.	R.	Tagore, Maharaja Prodyat Coomar. <i>Calcutta.</i>
1897 Dec. 1.	A.	Talbot, W. A. <i>Europe.</i>
1893 Aug. 31.	N.R.	Tate, G. P., Survey of India. <i>Karachi.</i>
1878 June 5.	N.R.	Temple, Lieut.-Col. Richard Carnac, C.I.E., I.S.O. <i>Port Blair.</i>

Date of Election.		
1875 June 2.	N.R.	Thibaut, Dr. G., Professor, Muir Central College. <i>Allahabad.</i>
1898 Nov. 2.	R.	Thornton, Edward, A.R.I.B.A. <i>Calcutta.</i>
1847 June 2.	L.M.	Thuillier, Lieut -Genl. Sir Henry Edward Landor, KNT., C.S.I., F.R.S., R.A. <i>Europe.</i>
1891 Aug. 27.	N.R.	Thurston, Edgar. <i>Madras.</i>
1871 April 5.	F.M.	Treffitz, Oscar. <i>Europe.</i>
1861 June 5.	L.M.	Tremlett, James Dyer, M.A., I.C.S., (retired), <i>Europe.</i>
1893 May 3.	N.R.	Vandja, Raja Ram Chandra. <i>Mayurbhanga District Balasore.</i>
1898 Feb. 2.	R.	Vasu, Amrita Lal. <i>Calcutta.</i>
1890 Feb. 5.	N.R.	Venis, Arthur, M.A., Principal, Sanskrit College. <i>Benares.</i>
1896 May 6.	R.	Vidyanidhi, Mahendra Nath. <i>Calcutta.</i>
1894 Sept. 27.	L.M.	Vost, Major William, I.M.S. <i>Gonda.</i>
1895 July 5.	R.	Waddell, Major Lawrence Austine, M.B., LL.D., I.M.S. <i>Calcutta.</i>
1889 Nov. 6.	N.R.	Walsh, Major John Henry Tull, I.M.S. <i>Murshidabad.</i>
1865 May 3.	A.	Waterhouse, Col. James, I.S.C., (retired). <i>Europe.</i>
1874 July 1.	R.	Watt, Dr. George, C.I.E. <i>Calcutta.</i>
1899 Sept. 29.	R.	Weldon, The Most Revd. James Edward Cowell, D.D., Lord Bishop of Calcutta; Metropolitan of India and Ceylon. <i>Calcutta.</i>
1896 Feb. 5.	N.R.	Williams, Captain Charles E., I.M.S. <i>Tounggyi, S. Shan States, Burma.</i>
1891 May 6.	R.	Wilson, Charles Robert, M.A., Bengal Education Service. <i>Bankipur.</i>
1899 Aug. 30.	R.	Wood, E. Seymour, F.G.S. <i>Calcutta.</i>
1892 Jan. 6.	R.	Woodburn, The Hon. Sir John, M.A., K.C.S.I., I.C.S. <i>Calcutta.</i>
1894 Sept. 27.	R.	Woodroffe, John George, Barrister-at-Law. <i>Calcutta.</i>
1894 Aug. 30.	N.R.	Wright, Henry Nelson, B.A., I.C.S. <i>Allahabad.</i>
1898 July 6.	R.	Wyness, James, C.E. <i>Calcutta.</i>
1897 Jan. 6.	N.R.	Zaka-ullah, Shams-ul-Ulama Muhammad. <i>Dehli.</i>

SPECIAL HONORARY CENTENARY MEMBERS.

Date of Election.	
1884 Jan. 15.	Dr. Ernst Haeckel, Professor in the University of Jena.
1884 Jan. 15.	Charles Meldrum, Esq., C.M.G., M.A., LL.D., F.R.A.S., F.R.S. <i>Mauritius.</i>
1884 Jan. 15.	Professor A. H. Sayce, Professor of Comp. Philology. <i>Oxford.</i>
1884 Jan. 15.	Professor Emile Senart, Member of the Institute of France. <i>Paris.</i>

HONORARY MEMBERS.

1848 Feb. 2.	Sir Joseph Dalton Hooker, G.C.S.I., O.B., M.D., D.C.L., LL.D., F.L.S., F.G.S., F.R.G.S., F.R.S. <i>Berkshire.</i>
1860 Mar. 7.	Professor The Right Hon. F. Max Müller. <i>Oxford.</i>
1860 Nov. 7.	Dr. Albrecht Weber. <i>Berlin.</i>
1875 Nov. 3.	Dr. Otto von Böhtlingk. <i>Leipzig.</i>
1879 June 4.	Professor Edward Bayles Cowell, D.C.L. <i>Cambridge.</i>
1879 June 4.	Dr. Albert Günther, M.A., M.D., PH.D., F.L.S., V.P.Z.S., F.R.S. <i>Surrey.</i>
1879 June 4.	Dr. Jules Janssen. <i>Paris.</i>
1879 June 4.	Professor P. Regnaud. <i>Lyons.</i>
1881 Dec. 7.	Lord Kelvin, G.C.V.O., D.C.L., LL.D., F.R.S.E., F.R.S. <i>Glasgow.</i>
1888 Feb. 7.	William Thomas Blanford, Esq., LL.D., A.R.S.M., F.G.S., F.R.G.S., F.Z.S., F.R.S. <i>London.</i>
1883 Feb. 7.	Alfred Russell Wallace, Esq., LL.D., D.C.L., F.L.S., F.Z.S. F.R.S. <i>Dorset.</i>
1894 Mar. 7.	Sir George Gabriel Stokes, Bart, M.A., D.C.L., LL.D., D.S.C., F.C.P.S., F.R.S.E., F.R.S. <i>Cambridge.</i>
1894 Mar. 7.	Mahamahapodhyaya Chandra Kanta Tarkalankara. <i>Calcutta.</i>
1894 Mar. 7.	Professor Theodor Noeldeke. <i>Strassburg.</i>
1895 June 5.	Lord Rayleigh, M.A., D.C.L., D.S.C., LL.D., PH.D., F.R.A.S., F.R.S. <i>Witham, Essex.</i>
1895 June 5.	Lt.-Genl. Sir Richard Strachey, R.E., G.C.S.I., LL.D., F.R.G.S., F.G.S., F.L.S., F.R.S. <i>London.</i>
1895 June 5.	Charles H. Tawney, Esq., M.A., C.I.E. <i>London.</i>
1896 Feb. 5.	Lord Lister, F.R.C.S., D.C.L., M.D., LL.D., D.S.C., P.R.S. <i>London.</i>
1896 Feb. 5.	Sir Michael Foster, K.C.B., M.A., M.D., D.C.L., LL.D., D.S.C., F.L.S., F.C.S., F.R.S. <i>Cambridge.</i>
1896 Feb. 5.	Professor F. Kielhorn, PH.D., C.I.E. <i>Göttingen.</i>
1896 Feb. 5.	Professor Charles Rockwell Lanmann. <i>Massachusetts, U.S.A.</i>
1899 Feb. 1.	Dr. Augustus Frederick Rudolf Hørnle, PH.D., C.I.E. <i>Oxford.</i>
1899 Dec. 6.	Professor Edwin Ray Lankester, M.A., LL.D., F.R.S. <i>London.</i>
1899 Dec. 6.	Sir George King, K.C.I.E., M.B., LL.D., F.L.S., F.R.S. <i>London.</i>
1899 Dec. 6.	Professor Edward Burnett Tylor, D.C.L., LL.D., F.R.S. <i>Oxford.</i>
1899 Dec. 6.	Professor Edward Suess, PH.D., For. Mem. R.S. <i>Vienna.</i>

CORRESPONDING MEMBER.

Date of Election.

1866 May 7. Schlagintweit, Dr. Emil. *Zweibrücken.*

ASSOCIATE MEMBERS.

1874 April 1. Lafont, The Revd. Father, E., C.I.E., S.J. *Calcutta.*
 1875 Dec. 1. Bate, The Revd. J. D., M.R.A.S. *Kent.*
 1875 Dec. 1. Abdul Hai, Maulvie. *Calcutta.*
 1882 June 7. Giles, Herbert. *Europe.*
 1884 Aug. 6. Moore, F., F.L.S. *Surrey.*
 1885 Dec. 2. Führer, Dr. A. *Europe.*
 1886 Dec. 1. Das, Rai Bahadur Sarat Chandra, C.I.E. *Calcutta.*
 1892 April 6. Samasrami, Satya Vrata. *Calcutta.*
 1892 Dec. 7. Brühl, P. J. *Sibpur.*
 1899 April 5. Sanyal, Rai Bahadur Ram Brahma. *Calcutta.*
 1899 April 5. Bhandari, Visnu Prasad Raj. *Nepal.*
 1899 Nov. 1. Francotte, The Revd. Father E., S.J. *Calcutta.*

LIST OF MEMBERS WHO HAVE BEEN ABSENT FROM
INDIA THREE YEARS AND UPWARDS.*

* *Rule 40.*—After the lapse of 3 years from the date of a member leaving India, if no intimation of his wishes shall in the interval have been received by the Society, his name shall be removed from the List of Members.

The following members will be removed from the next Member List of the Society, under the operation of the above Rule:—

Henry DeCourcy Agnew, Esq.
 Dr. C. F. Oldham, F.R.G.S.

LOSS OF MEMBERS DURING 1898.

BY RETIREMENT.

Lieut.-Col. Alexander Crombie, M. D., I. M. S.
Sayid Hussein, B. A.
The Most Revd. Edward Ralph Johnson, D. D., LL. D.
Mohamed Abdul Kadar, Khan Bahadur.
Babu Nrisinha Chandra Mukerjee.
Thomas M. Munro, Esq.
Lieut.-Col. George Ranking, M. D., I. M. S.
Thomas William Richardson, Esq., I. C. S.
Dr. Edmund James Simpson.

BY DEATH.

Ordinary Members.

The Hon. Moulive Sir Sayid Ahmad, Khan Bahadur, K. C. S. I.
Unes Chandra Batabyal, Esq., I. C. S.
Babu Harachandra Chauduri.
G. E. Grimes, Esq.
Pandit Rao Govind Rao Narain.
H. H. The Hon. Maharajah Sir Luchmessur Singh, Bahadur,
K. C. I. E.
Pandit Harimohen Vidyabhusan.

Honorary Member.

Dr. Georg Bühler.

Associate Member.

Charles J. Rodgers, Esq.

BY REMOVAL.

Under Rule 40.

John Beames, Esq., I. C. S., (retired).
Thomas R. Munro, Esq.
Colonel H. R. Thuillier, R. E.

[APPENDIX.]

ABSTRACT STATEMENTS
OF
RECEIPTS AND DISBURSEMENTS
OF THE
ASIATIC SOCIETY OF BENGAL
FOR
THE YEAR 1898.

1899.

STATEMENT *Asiatic Society*

Dr.

To ESTABLISHMENT.				Rs.	As.	P.	Rs.	As.	P.
Salaries	...	...	...	3,410	11	10			
Commission	...	...	...	426	0	3			
Pension	...	...	...	52	0	0			
							3,888	12	1
To CONTINGENCIES.									
Stationery	...	...	...	121	6	0			
Lighting	...	...	...	23	0	0			
Taxes	...	...	...	819	0	0			
Postage	...	...	...	445	0	3			
Freight	...	...	...	56	4	5			
Meeting	...	...	...	22	4	0			
Registration fee of the Society for 1899	...	...	...	5	0	0			
Auditor's fee	...	...	...	100	0	0			
Miscellaneous	...	...	...	323	8	8			
							1,915	7	4
To LIBRARY AND COLLECTIONS.									
Books	...	...	...	303	11	6			
Local Periodicals	...	...	...	16	0	0			
Binding	...	...	...	467	12	0			
Furniture	...	...	...	116	0	0			
Catalogue	...	...	...	30	8	0			
							933	15	6
To PUBLICATIONS.									
Journal, Part I	...	...	...	3,750	15	9			
Journal, Part II	...	...	...	1,167	7	1			
Journal, Part III	...	...	...	502	3	0			
Proceedings	...	...	...	700	11	9			
							6,121	5	7
To Printing charges of Circulars, Receipt-forms, &c.	...	...	...				244	10	0
„ Personal Account (Writes-off and Miscellaneous)	...	...	...				211	11	0
To EXTRAORDINARY EXPENDITURE.									
Repairs	...	...	...	237	8	0			
Royal Society's Scientific Catalogue	...	...	...	245	5	9			
							482	13	9
Balance	...	...	...				1,52,452	11	11
Total Rs.	...	...	...				1,66,251	7	2

No. 1.
of Bengal.

1899.

Cr.

			Rs.	As.	P.	Rs.	As.	P.
By Balance from last Report	...	...	...			1,47,205	1	1
BY CASH RECEIPTS.								
Publications sold for cash	...	...	478	7	4			
Interest on Investments	...	...	5	530	0	0		
Rent of Rooms on the Society's ground floor	...	...	1,200	0	0			
Allowance from Government of Bengal for the Publication of Anthropological and Cognate Sub- jects	...	...	2,000	0	0			
Ditto from Government of India for Royal Society's Scientific Catalogue	...	...	1,000	0	0			
Miscellaneous	...	...	249	9	6			
						10,458	0	10
BY PERSONAL ACCOUNT.								
Admission fees	...	...	864	0	0			
Subscriptions	7,215	0	0			
Sales on credit	408	0	0			
Miscellaneous	101	5	3			
						8,588	5	3

Total Rs.	...	1,66,251	7	2
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W. K. DODS,
Honorary Secretary and Treasurer,
Asiatic Society of Bengal.

Examined and found correct
MEUGENS, KING & SIMSON,
Auditors.

STATEMENT
1899. Oriental Publication Fund in Account

Dr.

TO CASH EXPENDITURE.

				Rs.	As.	P.			
				Rs.	As.	P.	Rs.	As.	P.
Printing charges	...	...	...	7,213	7	6			
Editing charges	...	...	...	4,384	10	0			
Salaries	...	...	...	1,280	10	8			
Freight	...	...	...	41	4	0			
Stationery	...	...	...	65	12	0			
Postage	...	...	...	317	3	6			
Commission on collection	...	...	...	28	14	7			
Contingencies	...	...	...	27	1	6			
							13,358	15	9
To Personal Account (Writes-off and Miscellaneous)			...				4 14 0		
			Balance				10,564 13 1		
Total Rs.							23,928 10 10		

STATEMENT

Sanskrit Manuscript Fund in Account

Dr.

TO CASH EXPENDITURE.

				Rs.	As.	P.			
				Rs.	As.	P.	Rs.	As.	P.
Salaries	...	...	...	1,056	0	0			
Travelling charges	...	...	...	866	13	2			
Purchase of manuscripts	...	...	...	541	8	6			
Printing	...	...	...	516	14	0			
Postage	...	...	...	34	2	0			
Binding	...	...	...	2	8	0			
Contingencies	...	...	...	5	9	0			
							3,023	6	8
To Personal Account (Writes-off and Miscellaneous)			...				4 0 0		
			Balance				5,872 7 11		
Total Rs.							8,899 14 7		

No. 2.

with the Asiatic Society of Bengal. 1899.

Cr.

			Rs.	As.	P.	Rs.	As.	P.
By Balance from last Report	...	...	...			12,789	13	9
BY CASH RECEIPTS.								
Government allowance	...	...	9,000	0	0			
Publications sold for cash	...	...	501	6	10			
Advances recovered	...	...	61	13	6			
						9,563	4	4
BY PERSONAL ACCOUNT.								
Sales on credit	...	...	...			1,625	8	9
			Total Rs.			...	23,928	10 10

W. K. DODS,
Honorary Secretary and Treasurer,
Asiatic Society of Bengal.

Examined and found correct.
 MEUGENS, KING & SIMSON,
Auditors.

No. 3.

with the Asiatic Society of Bengal.

Cr.

			Rs.	As.	P.	Rs.	As.	P.
By Balance from last Report	...	...	...			5,651	14	7
BY CASH RECEIPTS.								
Government allowance	...	...	3,200	0	0			
Publications sold for cash	...	...	8	0	0			
						3,208	0	0
BY PERSONAL ACCOUNT.								
Sales on credit	...	...	...			40	0	0
			Total Rs.			...	8,899	14 7

W. K. DODS,
Honorary Secretary and Treasurer,
Asiatic Society of Bengal.

Examined and found correct.
 MEUGENS, KING & SIMSON,
Auditors.

STATEMENT
Personal

1899.

Dr.

			Rs.	As.	P.	Rs.	As.	P.
To Balance from last Report	...	...	...			4,715	7	7
To CASH EXPENDITURE.								
Advances for purchase of Sanskrit Manuscripts, &c.	...	...	...			222	5	3
To Asiatic Society	...	...	8,588	5	3			
„ Oriental Publication Fund	...	...	1,625	8	9			
„ Sanskrit Manuscript Fund	...	...	40	0	0			
						10,253	14	0
Total Rs.						15,191 10 10		

STATEMENT
Invest

Dr.

			Nominal.			Actual.		
			Rs.	As.	P.	Rs.	As.	P.
To Balance from last Report	...	...	1,59,300	0	0	1,60,143	0	10
Total Rs.			1,59,300 0 0			1,60,143 0 10		

FUNDS.*	PERMANENT.						TEMPORARY.						TOTAL OF ACTUALS.		
	Nominal.			Actual.			Nominal.			Actual.			Rs.	As.	P.
	Rs.	As.	P.	Rs.	As.	P.	Rs.	As.	P.	Rs.	As.	P.	Rs.	As.	P.
Asiatic Society ...	1,42,800	0	0	1,42,540	0	0	15,200	0	0	16,307	4	1	1,58,847	4	1
Trust Fund ...	1,300	0	0	1,295	12	9	...	...	...	...	...	...	1,295	12	9
	1,44,100	0	0	1,43,835	12	9	15,200	0	0	16,307	4	1	1,60,143	0	10

No. 4.
Account.

1899.

Cr.

				Rs.	As.	P.	Rs.	As.	P.
By Cash Receipts	...	...	...	...	...	...	10,846	10	6
„ Asiatic Society	..	...	...	211	11	0			
„ Oriental Publication Fund	..	...	...	4	14	0			
„ Sanskrit Manuscript Fund	...	...	...	4	0	0			
							220	9	0

By Balance.	Due to the Society.			Due by the Society.		
	Rs.	As.	P.	Rs.	As.	P.
Members ...	4,881	14	9	177	0	0
Subscribers ...	5	0	0	91	12	0
Employés ...	30	0	0	350	0	0
Agents ...	169	2	6	...	...	...
Miscellaneous	290	8	0	133	5	11
	4,876	9	3	752	1	11

... 4,124 7 4

Total Rs. ... 15,191 10 10

W. K. DODS,
Honorary Secretary and Treasurer,
Asiatic Society of Bengal.

Examined and found correct.
MEUGENS, KING & SIMSON,
Auditors.

No 5.
ment.

Cr.

				Nominal.		Actual.	
				Rs.	As. P.	Rs.	As. P.
By Balance*	...	...	...	1,59,300	0 0	1,60,143	0 10
			Total Rs.	1,59,300	0 0	1,60,143	0 10

W. K. DODS,
Honorary Secretary and Treasurer,
Asiatic Society of Bengal.

Examined and found correct.
MEUGENS, KING & SIMSON,
Auditors.

STATEMENT

1899.

Trust

Dr.								
						Rs.	As.	P.
To Pension ...	...	...	...	...	...	44	0	0
„ Balance ...	...	...	...	...	...	1,846	8	10
Total Rs.						...	1,890	3 10

STATEMENT

Cash

Dr.								
						Rs.	As.	P.
To Balance from last Report ...	...	...	...	...	...	2,083	0	10
					RECEIPTS.			
To Asiatic Society ...	...	...	...	...	...	10,458	0	10
„ Oriental Publication Fund ...	...	...	...	...	...	9,563	4	4
„ Sanskrit Manuscript Fund ...	...	...	...	...	...	3,208	0	0
„ Personal Account ...	...	...	...	...	...	10,846	10	6
„ Trust Fund ...	...	...	...	...	...	45	8	0
Total Rs.						...	36,204	8 6

STATEMENT

Balance

Dr.								
						Rs.	As.	P.
To Cash ...	...	...	...	...	...	5,968	12	7
„ Investments ...	...	...	...	...	...	1,60,143	0	10
„ Personal Account...	...	...	...	...	...	4,124	7	4
Total Rs.						...	1,70,236	4 9

No. 6.
Fund.

1899.

Cr.

					Rs.	As.	P.
By Balance from last Report	...	...	...	...	1,344	11	10
„ Interest on Investments	...	...	...	...	45	8	0
				Total Rs.	1,390	8	10

W. K. DODS,
Honorary Secretary and Treasurer,
Asiatic Society of Bengal.

Examined and found correct.
MEUGENS, KING & SIMSON,
Auditors.

No. 7.
Account.

Cr.

EXPENDITURE.

					Rs.	As.	P.
By Asiatic Society	...	...	...	...	13,587	0	3
„ Oriental Publication Fund	...	...	...	...	13,858	15	9
„ Sanskrit Manuscript Fund	...	...	...	...	3,023	6	8
„ Personal Account	...	...	...	...	222	5	3
„ Trust Fund	...	...	...	...	44	0	0
		Balance	...	...	5,968	12	7
				Total Rs.	36,204	8	6

W. K. DODS,
Honorary Secretary and Treasurer,
Asiatic Society of Bengal.

Examined and found correct.
MEUGENS, KING & SIMSON,
Auditors.

No. 8.
Sheet.

Cr.

					Rs.	As.	P.
By Asiatic Society	...	...	...	...	1,52,452	11	11
„ Oriental Publication Fund	...	...	...	...	10,564	13	1
„ Sanskrit Manuscript Fund	...	...	...	...	5,872	7	11
„ Trust Fund	...	...	...	...	1,346	8	10
				Total Rs.	1,70,236	4	9

W. K. DODS,
Honorary Secretary and Treasurer,
Asiatic Society of Bengal.

Examined and found correct.
MEUGENS, KING & SIMSON,
Auditors.

List of all Societies, Institutions, &c., to which the Publications of the Asiatic Society have been sent during the year, or from which publications have been received.

* Societies, &c., which have received the Asiatic Society's publications, and have sent their publications in return.

† Societies, &c., which have received the Asiatic Society's publications, but have sent none in return.

§ Societies, &c., whose publications have been received, but to which none have been sent in return.

* Adelaide:—Royal Geographical Society of Australasia.

§ ———:—Central Australian Exploring Expedition.

§ Algiers:—Société de Géographie d' Alger.

* Allahabad:—Editor, *Pioneer*.

§ ———:—Bharati Bhavan Library.

* Amsterdam:—Royal Zoological Society.

* ———:—Koninklijke Akademie van Wetenschappen.

* Angers:—Société d' Etudes Scientifiques d' Angers.

* Baltimore:—Johns Hopkins University.

* Batavia:—Society of Arts and Sciences.

* ———:—Kon. Natuurkundige Vereeniging in Nederlandsch-Indië.

§ Bellary:—Editor, *Astrological Magazine*.

§ Berlin:—Entomologische Verein.

† ———:—Berliner Gesellschaft für Anthropologie, Ethnologie und Urgeschichte.

* ———:—Gesellschaft Naturforschende Freunde zu Berlin.

* ———:—Royal Academy of Sciences.

† Berne:—Société Suisse d' Entomologie.

* Bombay:—Bombay Anthropological Society.

* ———:—Bombay Branch, Royal Asiatic Society.

* ———:—Editor, *Indian Antiquary*.

* ———:—Natural History Society.

§ ———:—Government Observatory.

§ ———:—Marine Survey of India.

† Bonn:—University of Bonn.

* Bordeaux:—L' Académie Nationale des Sciences, Belles-Lettres et Arts.

* ———:—Société Linnéenne.

* Boston:—American Philological Association.

* ———:—Natural History Society.

§ ———:—American Oriental Society.

* Brisbane:—Royal Society of Queensland.

§ ———:—Queensland Museum.

- † Brookville:—Society of Natural History.
- * Brunswick:—Verein für Naturwissenschaft.
- * Brussels:—L' Académie Royale des Sciences.
- † ———:—Musée Royal d' Histoire Naturelle de Belgique.
- * ———:—Société Entomologique de Belgique.
- † ———:—La Société Royale Malacologique de Belgique.
- * ———:—Société Royale des Sciences de Liége.
- § ———:—Musée du Congo.
- † Budapest:—Hungarian Central Bureau for Ornithological Observations.
- * ———:—Royal Hungarian Academy of Sciences.
- § ———:—Editor, *Aquila*.
- * Buenos Ayres:—National Museum.
- * ———:—Academia Nacional de Ciencias de la Republica Argentina.
- * Caen:—Société Linnéenne de Normandie.
- * Calcutta:—Agri-Horticultural Society of India.
- * ———:—Geological Survey of India.
- * ———:—Editor, *Englishman*.
- § ———:—Editor, *Indian and Eastern Engineer*.
- * ———:—Editor, *Indian Daily News*.
- § ———:—Editor, *Indian Engineering*.
- * ———:—Editor, *Indian Mirror*.
- § ———:—Editor, *Indian Lancet*.
- * ———:—Indian Meteorological Department.
- * ———:—Indian Museum.
- § ———:—Maha-bodhi Society.
- § ———:—Photographic Society of India.
- * ———:—Royal Botanic Gardens.
- * ———:—Survey of India.
- * ———:—Tuttobodhini Shova.
- § ———:—Sanskrit College.
- § ———:—Imperial Library.
- § ———:—Botanical Survey of India.
- § ———:—St. Xavier's College Observatory.
- § ———:—Linguistic Survey of India.
- * ———:—University Library.
- * Cambridge:—University Library.
- * Cape Town:—South African Museum.
- * ———:—South African Philosophical Society.
- * Cassel:—Die Verein für Naturkunde.
- † Cherbourg:—Société Nationale des Sciences Naturelles.
- * Chicago, Ill.:—Editor, *American Antiquarian and Oriental Journal*.

- * Chicago, Ill. :—Field Columbian Museum.
- § ——— :—Board of Trade.
- § ——— :—Academy of Sciences.
- * Christiana :—University Library.
- * Colombo :—Ceylon Branch, Royal Asiatic Society.
- * Copenhagen :—La Société Royale des Antiquaires du Nord.
- † Cuttack :—Cuttack Library.
- * Danzig :—Naturforschende Gesellschaft.
- * Dehra Dun :—Great Trigonometrical Survey.
- § Dorpat :—Naturforscher-Gesellschaft.
- * Dresden :—Entomologischer Verein "Iris."
- † ——— :—Königlich Zoologisches und Anthropologisch-Ethnographisches Museum zu Dresden.
- * Dublin :—Royal Dublin Society.
- * ——— :—Royal Irish Academy.
- † Edinburgh :—Royal Society.
- § ——— :—Royal Physical Society.
- † ——— :—Scottish Geographical Society.
- * Florence :—Società Italiana di Antropologia.
- † ——— :—Società Africana d'Italia.
- * Frankfurt :—Senckenbergische Naturforschende Gesellschaft.
- * ——— :—Naturwissenschaftlicher Verein des Reg.-Bez. Frankfurt.
- * Geneva :—Société de Physique et d' Histoire Naturelle.
- * Genoa :—Museo Civico di Storia Naturale.
- * Giessen :—Oberhessische Gesellschaft für Natur und Heilkunde.
- § Glasgow :—University Library.
- * Graz :—Naturwissenschaftlicher Verein für Styria.
- § Greenwich :—Royal Observatory.
- * Hague :—Köninklijk Instituut voor de Taal- Land-en Volkenkunde van Nederlansch-Indië.
- * ——— :—Netherlands Entomological Society.
- * ——— :—The State Archives.
- * Hamburg :—Naturhistorisches Museum zu Hamburg.
- * ——— :—Naturwissenschaftlicher Verein.
- § Halifax :—Nova Scotian Institute of Science.
- † Halle :—Deutsche Morgenländische Gesellschaft.
- * ——— :—Kaiserliche Leopoldinisch-Carlische Akademie.
- * Hamilton (Canada) :—Hamilton Association.
- * Havre :—Société de Géographie Commerciale du Havre.
- * Helsingfors :—Societas pro Flora et Fauna Fennica.
- * ——— :—Société Finno Ougrienne.
- * ——— :—Société des Sciences de Finlande.

- * Honolulu :—Bernice Pauahi Bishop Museum.
- § Indianapolis, Ind. :—Indiana Academy of Science.
- § ——— :—Geological Survey.
- § Ithaca :—Cornell University.
- † Kiew :—Société des Naturalistes.
- § Kew :—Royal Gardens.
- * Königsberg :—Die Physikalische-Oekonomische Gesellschaft.
- † La Plata :—Museo de La Plata Republica Argentina.
- * Lahore :—Editor, *Civil and Military Gazette*.
- † ——— :—Agricultural Society.
- * Lawrence, Kansas :—Kansas University.
- § Leipzig :—Deutsche Morgenländische Gesellschaft.
- § ——— :—Die K. Sächsische Gesellschaft der Wissenschaften.
- † Leyden :—Royal Herbarium.
- § ——— :—University Library.
- * Liège :—Société Géologique de Belgique.
- † Liverpool :—Literary and Philosophical Society.
- § ——— :—University College.
- * London :—Anthropological Institute.
- * ——— :—Editor, *Academy*.
- * ——— :—Editor, *Athenæum*.
- * ——— :—British Museum.
- * ——— :—Geological Society.
- * ——— :—Institution of Civil Engineers.
- * ——— :—Institution of Electrical Engineers.
- * ——— :—Institution of Mechanical Engineers.
- * ——— :—Editor, *Nature*.
- * ——— :—Linnean Society.
- * ——— :—Royal Asiatic Society of Great Britain and Ireland.
- * ——— :—Royal Astronomical Society.
- * ——— :—Royal Geographical Society.
- * ——— :—Royal Institution of Great Britain.
- * ——— :—Royal Microscopical Society.
- * ——— :—Royal Society.
- * ——— :—Royal Statistical Society.
- * ——— :—Zoological Society.
- § ——— :—Wyclif Society.
- § ——— :—British Association for the Advancement of Science.
- § Lucknow :—Government Horticultural Gardens.
- § ——— :—Provincial Museum.
- † Lyons :—La Société d' Agriculture, d' Histoire Naturelle et des Arts
Utiles.

- † Lyons :—Muséum d' Histoire Naturelle.
- † ——— :—La Société d' Anthropologie.
- * Madison, Wiss. :—Wisconsin Academy of Sciences, Arts and Letters.
- † Madras :—Literary Society.
- * ——— :—Government Central Museum.
- § ——— :—Editor, *Indian Journal of Education*.
- § ——— :—Government Observatory.
- * Melbourne :—Royal Society of Victoria.
- * Manchester :—Literary and Philosophical Society.
- † Massachusetts :—Tufts College.
- § Mauritius :—Royal Alfred Observatory.
- * Mexico :—Sociedad Científica " Antonio Alzate."
- § Missouri :—Botanical Garden.
- § Montevideo :—Museo Nacional de Montevideo.
- * Moscow :—Société Impériale des Naturalistes.
- * Munich :—K. Bayerische Akademie der Wissenschaften.
- § Nagpur :—Experimental Farm.
- * Nantes :—Société des Sciences Naturelles de L' ouest de la France.
- † Naples :—Società Africana d' Italia.
- * New Haven :—Connecticut Academy of Arts and Sciences.
- § ——— :—Yale University.
- † Newport (R. I.) :—Natural History Society.
- * New York :—American Museum of Natural History.
- * Ottawa :—Geological and Natural History Survey of the Dominion of
Canada.
- § ——— :—Royal Society of Canada.
- † Oxford :—Bodleian Library.
- † ——— :—Indian Institute.
- § Para, Brazil :—Museu Paraense.
- * Paris :—Société de Géographie.
- * ——— :—Société d' Anthropologie.
- * ——— :—Asiatic Society.
- § ——— :—Société Philomathique de Paris.
- * ——— :—Musée Guimet.
- † ——— :—National Library.
- * ——— :—Société Zoologique.
- † ——— :—Société Académique Indo-Chinoise.
- * ——— :—Muséum d' Histoire Naturelle.
- * Pennsylvania :—University of Pennsylvania.
- * Philadelphia :—Academy of Natural Sciences.
- § ——— :—American Academy of Political and Social Science.
- * ——— :—American Philosophical Society.

- § Philadelphia:—Franklin Institute.
† ———:—Editor, *Journal of Comparative Medicine and Surgery*.
* Pisa:—Société Toscana di Scienze Naturali.
§ Prague:—K. K. Sternwarte.
§ Rome:—Revista Geografica Italiani.
* ———:—Società degli Spettroscopisti Italiani.
§ ———:—R. Accademia dei Lincei.
§ Roorkee:—Editor, *Indian Forester*.
§ St. Louis:—Academy of Science of St. Louis.
* St. Petersburg:—Comité Géologique.
† ———:—Imperial Library.
* ———:—Russian Geographical Society.
* ———:—Académie Impériale des Sciences.
† ———:—Horti Petropolitani.
§ St. Petersburg:—Die Russisch-Kaiserliche Mineralogische Gesellschaft zu St. Petersburg.
§ Saharanpur:—Government Botanical Gardens.
* San Francisco:—Californian Academy of Arts and Sciences.
§ Schaffhausen:—Swiss Entomological Society.
* Shanghai:—China Branch, Royal Asiatic Society.
* Simla:—United Service Institution of India.
† Stettin:—Entomological Society.
* Stockholm:—Entomologische Tidskrift.
* ———:—Royal Swedish Academy of Sciences.
† ———:—Royal Academy of belles letters, history and Antiquities.
* Stuttgart:—Der Verein für vaterländische Naturkunde in Württemberg.
* Sydney:—Royal Society of New South Wales.
† ———:—Anthropological Society of Australia.
* ———:—Linnean Society of New South Wales.
§ ———:—Editor, *Science of Man*.
§ ———:—Australian Association for the Advancement of Science.
§ ———:—Australian Museum.
§ Taiping:—Government of Perak.
§ Tiflis:—Botanical Garden.
* Toronto:—Canadian Institute.
* Tokyo:—Imperial University of Japan.
† Trieste:—Société Adriatica de Scienze Naturale.
† ———:—Museo Civico di Storia Naturale.
* Tring:—Zoological Museum.
* Turin:—Reale Accademia delle Scienze.
† Ulwar:—Ulwar Library.

- * Upsala :—University of Upsala.
- * Valparaiso :—Deutscher Wissenschaftlicher Verein.
- * Vienna :—Anthropologische Gesellschaft.
- * ——— :—K. K. Akademie der Wissenschaften.
- * ——— :—K. K. Geologische Reichsanstalt.
- † ——— :—K. K. Naturhistorische Hofmuseum.
- † ——— :—Ornithologische Verein in Wien.
- * ——— :—K. K. Zoologisch-Botanische Gesellschaft.
- § Vizagapatam :—Juggarow Observatory.
- § Washington :—Biological Society of Washington.
- * ——— :—Commissioners of the Department of Agriculture.
- * ——— :—Smithsonian Institution.
- * ——— :—United States Geological Survey.
- § ——— :—United States National Museum.
- § ——— :—Academy of Sciences.
- § ——— :—Volta Bureau.
- § ——— :—American Historical Association.
- § ——— :—American Museum of Natural History.
- † Wellington :—New Zealand Institute.
- * ——— :—Polynesian Society.
- * Yokohama :—Asiatic Society.
- * ——— :—Deutsche Gesellschaft für Natur und Völkerkunde
Ostasiens.
- * Zagreb :—Archæological Society.
- * Zurich :—Naturforschende Gesellschaft.

PROCEEDINGS
OF THE
ASIATIC SOCIETY OF BENGAL.

EDITED BY

THE HONORARY SECRETARY.



JANUARY TO DECEMBER,
1900.



CALCUTTA :

PRINTED AT THE BAPTIST MISSION PRESS,

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1901.

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PROCEEDINGS
OF THE
ASIATIC SOCIETY OF BENGAL,
FOR JANUARY, 1900.

The Monthly General Meeting of the Society, was held on Wednesday, the 3rd January, 1900, at 9 P.M.

T. H. HOLLAND, Esq., F.G.S., A.R.C.S., in the chair.

The following members were present:—

Major A. Alcock, I.M.S., Mr. J. Bathgate, Mr. H. Beveridge, Dr. T. Bloch, Babu Nobinchand Bural, Mr. W. K. Dods, Mr. F. Finn, Mr. D. Hooper, Mr. G. W. Kuchler, Dr. S. C. Laharry, Mr. W. A. Lee, The Revd. H. O. Moore, Mr. R. N. Mookerjee, Mr. L. de Nicéville, Mr. F. E. Pargiter, Babu Yadunath Sen.

Visitor:—Mr. H. Ludlow.

The minutes of the last meeting were read and confirmed.

Twenty-one presentations were announced.

The proposed resumption by the Society of its original name of "The Asiatic Society" instead of "Asiatic Society of Bengal" of which intimation has already been given by circular to all members were brought up for final disposal.

The Council recommended the adoption of the proposal to revert to the original title, the proposal being fully justified by the fact that the Title Deeds stood in the name of "The Asiatic Society."

The votes of the members were laid on the table and the Chairman requested any Resident Members who had not expressed their opinion to take the present opportunity of filling in voting papers. Seven such papers were filled in and with the 96 votes returned by members, were scrutinized, the Chairman appointing Messrs. D. Hooper and L. de Nicéville to be Scrutineers.

The Scrutineers reported as follows :—

69 For.

34 Against.

The Chairman read the following appeal from the Royal Asiatic Society regarding the establishment of a gold medal for the encouragement of Oriental learning.

In 1897 the Council of the Royal Asiatic Society established a Jubilee Gold Medal to be awarded every third year as an encouragement to Oriental learning amongst English-speaking people.

To meet the expenses incurred in preparing a design, engraving dies, and finding an amount to produce an income sufficient to defray the requisite charges a sum of about £ 400 will be necessary.

Subscriptions with interest of £ 300 have already been received and a balance of about £ 100 is therefore still needed.

Donations should be sent to the Chairman of the Medal Committee,
Royal Asiatic Society,
22, Albemarle Street, London, W.

The Chairman announced that in accordance with Rule 37 of the Society's Rules, the names of seventeen members were to be suspended in the Society's rooms as defaulters for non-payment of dues.

The Chairman also announced that he had received two essays in competition for the Elliott Prize for Scientific Research for the year 1899.

Mr. T. H. Holland exhibited and described a new Indian Meteoric Iron.

This meteorite was found by a villager near Kodaikanal in the Palni Hills, Madras, and through the help of Mr. C. Michie Smith, Director of the Madras Observatories, it was secured in 1898 for the Geological Museum, Calcutta. It weighed about 35 lbs. when found, and was covered with a coat of rust due to its having, in all probability, been exposed for some time to the weather. There is no record of its fall, but a large meteor was seen eight years before to burst over the Pillar Rocks near Kodaikanal, and it is not unlikely that this "iron" fell at that time.

It is found to be composed almost entirely of nickeliferous iron, with included irregular mineral masses, measuring sometimes 10 m.m. across. Crystal structures—imperfect Widmanstätten figures—are developed by etching the polished surface of the iron with dilute acid; but beyond these tests, which satisfactorily establish the meteoric origin

of this iron, the specimen has not yet been examined in detail. The surface shows the "thumb-marks" characteristic of the holosiderites.

A certain amount of interest is attached to this "find" on account of the rarity of Indian meteoric irons.

Although stony meteorites have been found in great numbers, only one other iron has been obtained in India, and that was seen to fall near Nidigullum (lat. 18° 41' 20"; long 83° 28' 30") in the Vizagapatam district on January 23rd, 1870. The Nidigullum meteorite* weighed 10lbs. only; its model and a piece of the iron are preserved in the collection of the Geological Survey of India, Calcutta.

Major A. Alcock, I.M.S., exhibited and made the following remarks on some insects that possess special means of scaring their enemies.

The instances of natural protection here exhibited are all well known, and I claim no originality in speaking of them.

They consist of larvæ of three species of *Lepidoptera* which possess special means—so far as one can judge—of scaring their enemies.

In two of these cases the protection afforded by the "scare" appears—at any rate in certain stages of existence—to be supplemented by at least one form of disguise, making security doubly sure.

The first exhibit includes enlarged drawings of the larvæ of the *Lycænid* butterfly *Curetis thetys*. Those larvæ were common enough in my garden, during last rainy season, on young trees of *Pongamia glabra*.

In its youngest stage the larva very much resembles—both in form and colour, and also in the position that it usually takes up in or near the axil of a young leaf—a leaf-bud or a fleshy stipule.

In a later stage it has a large indefinite patch of white on either side of its body which give it a certain amount of resemblance to a bird's-dropping with the usual smear of uric acid.

In its latest stage the patches of white are well defined, and except that its prevailing colour is bright green, like the leaves on which it feeds, the larva has no special disguise-markings.

There now however comes in the scaring apparatus, though it, indeed, has been in existence from the first. This consists of a pair of brushes—much like bottle-brushes, or, perhaps, more like a thistle-head in seed—which can be suddenly shot out from two tall chimney-like excrescences on the dorsal surface of the last segment of the body, and when so extruded can be rapidly whirled round and round.

Whenever the animal is touched—in any of its larval stages—these brushes are ejected and worked with the greatest vigour.

* Proc., Asiatic Socy. Beng., 1870, p. 64.

Mr. de Nicéville, who has made some observations on this subject (*vide* Journ. Bomb. Nat. Hist. Soc. Vol. III, 1888, pp. 164–168), considers that the use of these brushes is to sweep away Ichneumon flies and parasitic *Diptera*. They are certainly capable of doing this very effectually, but I think they would also scare bigger enemies.

The second exhibit includes enlarged drawings of the well-known larvæ of the Papilionio butterfly *Papilio pammon*, which was common in my garden, at the close of last rainy-season, on shrubs of the Orange order.

In its early stages the larva of this butterfly is dull green smeared with white, and might easily be mistaken for a bird's-dropping.

As it grows older the markings become well defined, and the animal is an undoubted caterpillar, though two large eyelike markings on the second segment behind the head give it an ugly look.

But, like the caterpillar of *Curetis thelys*, it does not trust solely to its looks to deceive or frighten its enemies; but it has also the power, when it is irritated, of shooting out, from the crevice between the back of the head and the first thoracic segment, a pair of very alarming bright-red horns.

The effect is so startling, even to a man accustomed to handle animals of all sorts, that one can easily imagine that it would effectually scare a bird.

The third exhibit includes enlarged drawings of the well-known caterpillar of the Notodontid moth, *Stauropus alternus*. These caterpillars, which can be found in Calcutta and its vicinity in the rainy season, are as extraordinary in look as they are in behaviour. When touched, they turn the hinder end of the body over on to the back, in the manner of an enraged scorpion, and then begin to tremble as if agitated by the most uncontrollable emotion. There are certain particularly irascible ants that behave somewhat in the same way, and there can be little doubt that the suggestion, which has been made, that the attitude of the alarmed *Stauropus* caterpillar may be mistaken by its enemies for the offensive posture of an ant of enormous dimensions, is somewhere near the truth.

The insects that accompany these drawings are common enough, during the monsoon, in Calcutta, and I recommend them to your further notice. No observer can watch their behaviour without admiration. Of their power to terrify creatures like birds, whose high aesthetic and emotional development cannot but be accompanied by at least the germs of superstition, there can be no uncertainty.

Mr. de Nicéville, in criticizing these remarks, considered that although perhaps the "scares" might frighten birds, their most

important function was to terrify ichneumon-flies and parasitic *Diptera*, which were far the most active enemies that caterpillars had to contend against. For this reason he thought that the more commonly received idea that the *Stauropus* caterpillar, when irritated, resembled a spider, was nearer to the truth.

The following papers were read:—

1. *Notes on the Sāsī Dialect.*—By THE REVD. T. GRAHAME BAILEY, B.D., M.A.

2. *Novellies in Muḥammadan Coins in India.*—By DR. W. VOST, I.M.S.

The papers will be published in the *Journal*, Part I.

3. *On the Anthropology of the Coorgs and Yeravas.*—By T. H. HOLLAND, F.G.S., A.R.C.S.

The paper will be published in the *Journal*, Part III.

The Chairman announced that it is proposed by the President and Council of the Society that a conversazione should be held in the Society's Rooms on the occasion of the Annual Meeting on February 7th, 1900.

Members who desire to invite visitors are requested to send the names and addresses of such visitors, ladies as well as gentlemen, in order that tickets of admission may be sent to them.

Members who desire to exhibit objects of Literary, Scientific or Aesthetic interest are requested to communicate with the Honorary Secretary as early as possible, in order that accommodation may be arranged for.

REPORT ON THE PROPOSED RESUMPTION BY THE SOCIETY OF ITS ORIGINAL NAME.

The Committee carefully examined the records of the institution and found that the Society was established on the 15th January, 1784, under the title of "The Asiatick Society," for the purpose of "enquiring into the History, civil and natural, the Antiquities, Arts, Science and Literature of Asia." At this historical meeting held at the Court House, Fort William, there were present, Sir Robert Chalmers, Knight, Chief Justice, Supreme Court, Fort William; Mr. Justice Hyde, Puisne Judge, Supreme Court; Sir William Jones, Knight, Puisne Judge, Supreme Court; General John Carnac; Lt.-Colonel Henry Watson; David Anderson, Esq., Henry Vansittart, Esq., Charles Croftes, Esq., William Chambers, Esq., Richard Johnson, Esq., John Shore, Esq.; (afterwards Lord Teignmouth), Francis Gladwin, Esq., Charles Chapman,

Esq., Nathaniel Middleton, Esq., Major William Davy, Charles Wilkins, Esq. (afterwards knighted), Jonathan Duncan, Esq., John Bristow, Esq., Thomas Graham, Esq., Francis Fowke, Esq., Thomas Law, Esq., Captain Jonathan Scott, Francis Balfour, Esq., J. D. Paterson, Esq., Ralph Broome, Esq., Burrish Crisp, Esq., Lt. James Anderson, Lt. Charles Hamilton, T. Reuben Burrow, Esq., and George Hillarow Barlow, Esq. (afterwards a Baronet). SIR WILLIAM JONES was elected the first President, and WARREN HASTINGS, the Governor-General, became the first Patron of the Society.

“The Asiatick Society” thus established, published its transactions under the designation of “*The Asiatick Researches*” and only modified its original title by dropping, in 1825, the antique *k* in ‘Asiatick.’

In 1832 the Society accorded permission to its Secretary, Mr. James Prinsep, editor of *Gleanings in Science* “to continue that (last named) publication under the designation of ‘*The Journal of the Asiatic Society*.’” In availing himself of this permission, however, Mr. Prinsep, whilst printing the Society’s resolution correctly in his *Journal* and inserting the proper title of the Society on the first page of the letter-press and everywhere throughout the records of the Society’s Proceedings, incorporated in the volume, took the liberty of adding on the title-page the words ‘of Bengal.’ This he probably did with the view of distinguishing this Society from the ‘Royal Asiatic Society’ which had recently been started in London, with a branch in Bombay. That he did it without the authority of the Society seems clear, for the most diligent search of the records has failed to show any trace of the matter. And, on the other hand, the Society continues invariably in all its proceedings and correspondence to call itself, and to be addressed by others as, simply “The Asiatic Society.”

When in 1843, the Society having discontinued the publication of its ‘Researches’ took over Mr. Prinsep’s *Journal* on its own account, the existing style of the periodical was tacitly retained, without any alteration.

In February 1851, the provincial affix ‘of Bengal’ was printed in the Society’s designation in a revised code of the Bye-Laws, but no authority for this addition can be found. It seems to have crept in by an oversight and it doubtless by this time had become familiar by having been printed on the title-page of the *Journal* for so many years.

This altered title, once printed in the Bye-Laws, soon came into general use, though the Society in its proceedings still occasionally continued to use its proper title, which was also continued on the first page of the *Journal* regularly up to the end of 1875, the *Journal* being entitled simply “*The Journal of the Asiatic Society*.”

It is therefore clear that the title of this Society still remains 'The Asiatic Society' and that the provincial designation 'of Bengal' crept into use by inadvertence and without the express authority or sanction of the Society.

The Committee after carefully considering all the evidence beg to recommend to the Council:—

That our Society, as the parent of all the other Asiatic Societies, may resume in its correspondence and publications its still unrevoked designation of 'The Asiatic Society' in accordance with the terms of our foundation.

Objections raised by Mr. F. E. Pargiter:—

I take objection to the proposal on two grounds,—first, that the remarks on the past history of the Society's name are derogatory to the distinguished men who have governed the Society during this century; and secondly, that the proposal subserves no real good.

It is stated in those remarks that the addition of the words "of Bengal" in the name was brought about "without authority," "by an oversight," "by inadvertence," and "without sanction." It is however too much to assume that, because no express resolution or order on the point can be found now, the former rulers of the Society did not notice the change. It seems more in consonance with the facts as narrated by the Committee and more respectful to those distinguished men, to infer that they perceived that, when the Royal Asiatic Society was established with a Branch at Bombay (and another, I believe, at Colombo then or soon afterwards), and after other Oriental Societies were established on the Continent, the condition of our Society was not precisely the same as before, that other societies claimed a share in our (till then exclusive) province, and that our position would be more appropriately described by adding the words "of Bengal." Those developments were gradual; hence there was no occasion for formally altering our title, but the modification introduced tentatively by Mr. James Prinsep was tacitly approved and gradually adopted by the Society. For these reasons I demur to the remarks in the Committee's paper.

In the second place it is not explained what good the proposal will subserve. We are asked to go back at one step on what has been the practice for more than half a century, yet no reason of essential importance is urged on behalf of the change. No principle is involved, nor is it a matter of any practical consequence. Neither the scope of our researches, nor our position among the learned societies, nor the

estimation in which we are held depend in any way on whether we leave out the words "of Bengal" or not; they depend solely on our maintaining the high reputation of the past. I may note here that the Royal Asiatic Society describes itself on its Journal as the "Royal Asiatic Society of Great Britain and Ireland;" if then that Society uses such qualifying words, there is no good reason why we should be reluctant to retain the words "of Bengal." There remains the question of sentiment, and in that important respect we shall best preserve the noble traditions of the past by holding to what was adopted by the good sense and modesty of the distinguished men who have adorned our society during the last fifty years.

Under Rule 78, which provides that "no change in the Rules shall be valid unless a majority of three-fourths of the Members who have voted shall be in favour of the proposed changes," the proposal to resume the original name of *Asiatic Society* is not carried.



PROCEEDINGS
OF THE
ASIATIC SOCIETY OF BENGAL,
FOR FEBRUARY, 1900.

The Annual Meeting of the Society was held on Wednesday, the 7th February, 1900, at 9 P.M.

HIS EXCELLENCY BARON CURZON OF KEDLESTON, G.M.S.I., G.M.I.E.,
Patron, and HER EXCELLENCY LADY CURZON, were present.

H. H. RISLEY, Esq., B.A., C.I.E., I.C.S., President, in the Chair.

The following members were present :—

Maulavi Abdul Aziz Khan, Maulavi Abdul Karim, Maulavi Abdul Wali, Shams-ul-Ulama Maulavi Ahmud, Major A. Alcock, I.M.S., The Hon. Mr. Justice Ameer Ali, C.I.E., Babu Damodar Das Barman, Babu Nagendra Nath Basu, Mr. J. Bathgate, Mr. H. Beveridge, Dr. T. Bloch, The Hon. Mr. C. W. Bolton, C.S.I., Babu Annada Prasad Bose, Babu Nobin Chand Bural, Dr. A. Caddy, Mr. R. W. Carlyle, C.I.E., Mr. W. B. Colville, Dr. P. Cordier, Mr. J. N. Das-Gupta, Mr. W. K. Dods, Mr. J. F. Duthie, Mr. F. Finn, Babu Bhupendra Sri Ghosha, Babu Pratapa Chandra Ghosha, Babu Rajani Kanta Gupta, Mr. E. B. Havell, Col. T. H. Hendley, C.I.E., Mr. S. C. Hill, Mr. T. H. Holland, Mr. D. Hooper, Mr. G. W. Kuchler, Dr. S. C. Laharry, Mr. W. A. Lee, Mr. C. Little, Mr. D. J. Macpherson, C.I.E., Mr. R. D. Mehta, C.I.E., Captain C. J. Milne, I.M.S., Mr. J. C. Mitra, Mr. R. N. Mookerjee, The Revd. H. O. Moore, The Hon. Dr. Asutosh Mukerjee, Babu Panchanan Mukerjee, Mr. L. de Nicéville, Mr. F. E. Pargiter, Mr. A. Pedler, F.R.S., Major D. Prain, I.M.S., Dr. P. K. Ray, Mr. H. M. Rustomjee, Babu Yadu Nath Sen, Mr. M. J. Seth, Mahamahopadhyaya Hara Prasad Shastri, Babu Lachmi Narayan Singh, Dr. Mahendra Lal Sircar, C.I.E., Dr. M. A. Stein,

Mr. A. Tocher, Babu Amrita Lal Vasu, Pandit Mahendra Nath Vidyanidhi, Dr. G. Watt, C.I.E., The Most Revd. J. E. C. Weldon, D.D.

Visitors :—Maulavi Abdus Sattar Khan, Mrs. A. Alcock, The Hon. Mr. A. Arthur, Mons. C. Aubert, Mr. J. E. Bagram, The Revd. W. H. Ball, Babu Upendra Nath Banerjee, Mr. A. Bartels, Miss Bashford, Captain A. H. Bingley, I.S.C., Mr. and Mrs. Binuing, Mr. A. J. F. Blair, Babu Asutosh Bose, Babu Doyal Chandra Bose, Babu Jnanendra Nath Bose, Babu Sasi Sekhar Bose, Mr. G. W. L. Caine, Mr. D. Campbell, Mr. N. Chatterjee, Mrs. Coldstream, The Hon. Major-General Sir E. H. and Lady Collen, Dr. and Mrs. Coulter, Mr. A. F. Cox, The Revd. F. Crohan, S.J., Miss Cruickshank, The Hon'ble Mr. and Mrs. C. E. Dawkins, Mr. N. G. Dighe, Mr. and Mrs. F. W. Duke, Babu Hirendra Nath Datta, Babu Pramatha Nath Datta, Mrs. Elliot, Sir Griffith Evans, The Hon. Mr. H. F. Evans, C.S.I., Mr. A. U. Fanshawe, C.S.I., Dr. Forsyth, Mr. and Mrs. J. S. Fraser, Mr. A. K. Ghose, Mr. C. C. Ghose, Babu Debendra Prasad Ghose, Babu Hemendra Prasad Ghose, Mr. M. C. Gora, Mr. L. Hare, Surgeon-General R. Harvey, I.M.S., Mrs. Havell, The Revd. L. Hagenbeek, S.J., Mrs. Hendley, Mr. J. P. Hewett, C.S.I., Mr. W. E. Hill, Mr. T. W. Holderness, C.S.I., Mrs. T. H. Holland, Mons. C. Jambou, Mr. A. H. James, Mr. E. Kinnison, Babu Makhan Lal, Rai Sohan Lal, Mr. Lubbock, Mr. Macdonell, The Hon. Sir Francis Maclean, Kt., K.C.I.E., Mr. J. M. Macpherson, C.S.I., The Hon. Sir W. Macpherson, Mr. W. D. Maitland, Babu Amrita Krishna Mallick, Babu Biraj Mohan Mazumdar, Mr. B. R. Mehta, Lady Melissa, Mr. and Mrs. W. S. Meyer, Mr. W. H. Michael, Babu Bosanta Kumar Mitra, Babu Kiran Chandra Mitra, Babu Mohini Nath Mitra, Babu Narendra Nath Mitra, Babu Provas Chunder Mitra, Babu Sarat Kumar Mitra, Babu Tej Chandra Mitra, Mr. P. Montgomery, Rai Bahadur Dr. Lal Madhub Mookerjee, Mian Muhammad Hamid, Mr. J. W. Murray, Thakur Nand Kumar, Mr. J. Nicoll, Dr. F. Pearse, Mr. T. B. Peterkin, Mr. H. S. Pike, Major and Mrs. Pilgrim, Mons. Piliuski, Sir Patrick Playfair, Kt., C.I.E., Mrs. D. Prain, The Hon. Mr. T. Raleigh, Mr. G. Reading, The Hon. Mr. J. D. Rees, C.I.E., Mr. W. F. Reynolds, Captain Rogers, I.M.S., Mr. R. H. M. Rustomjee, Babu Syam Krishna Sahay, Babu Kumud Behari Samanta, Babu Atal Coomar Sen, Dr. S. N. Sen, Maulavi Shamsul Huda, Pandit Yogesha Chandra Shastree, Mr. and Mrs. A. F. Simson, The Hon. Kanwar Sir Harnam Singh, Asst.-Surgeon Hira Lal Sinha, Mr. Valentia Steer, The Hon. Mr. Justice Stevens, Mr. W. S. Tissendie, The Hon. Sir Arthur Trevor, K.C.S.I., Mr. G. Turton, Mr. F. R. Upcott, Captain H. J. Walton, I.M.S., Major B. R. H. Whitwell, I.M.S., Major and Mrs. Williams, Mr. and Mrs. A. H. Wood, Shams-ul-Ulama Maulavi Zulfakar Ali, and others.

According to the Rules of the Society, the President ordered the voting papers and certificates to be distributed for the election of officers and members of Council for 1900, and appointed Dr. G. Watt, C.I.E.; and Mr. S. C. Hill to be scrutineers.

The President then called upon the Secretary to read the Annual Report.

ANNUAL REPORT FOR 1899.

The Council of the Society have the honour to submit the following Report on the state of the Society's affairs during the past year.

Member List.

Our number of *Ordinary Members* is 301, which is higher than any year since 1893.

30 Ordinary Members have been elected, and we have lost 15 by withdrawal, 3 by death, 10 by removal under Rule 40, and 1 by removal under Rule 9.

The following table gives the statistics for the last six years.

YEAR.	PAYING.				NON-PAYING.				GRAND TOTAL.
	Resident.	Non-Resident.	Foreign.	Total.	Life.	Absent.	Special Non-Subscribing.	Total.	
1894	98	125	12	235	22	36	2	60	295
1895	108	122	12	242	23	31	1	55	297
1896	105	119	11	235	23	35	1	59	294
1897	106	115	9	230	22	35	1	58	288
1898	122	108	11	241	23	35	1	59	300
1899	120	119	13	252	21	27	1	49	301

The names of the Ordinary Members whose death we lament are Babu Gaurdas Bysack, Mr. J. H. Gilliland, and Deputy Surgeon-General S. B. Partridge. Dr. Partridge and Babu Gaurdas Bysack were two of the oldest members of the Society, having been elected in 1862.

Our number of *Honorary Members* is complete. We have to lament the loss of Sir William Flower, Sir Edward Frankland and Sir Monier

Williams; and we have elected Dr. A. F. R. Hoernle, C.I.E., Sir George King, F.R.S., Professor E. Ray Lankester, F.R.S., Professor E. Sness, and Professor E. B. Tylor, F.R.S.

Three *Associate Members* have been elected during the year, namely, Pandit Visnu Prasad Raj Bhandari, Rai Bahadur R. B. Sanyal, C.M.Z.S., and the Revd. E. Francotte, S.J.

Indian Museum.

Dr. A. F. R. Hoernle resigned his seat on the Board of Trustees and was succeeded by Archbishop P. Goethals. The other Trustees who represent the Society are Mr. A. Pedler, F.R.S., Dr. Mahendra Lal Sircar, C.I.E., Mr. R. D. Oldham, F.G.S., and Mr. G. W. Küchler, M.A.

Finance.

Our financial position has improved, and we close the year with a credit balance of Rs. 1,52,452-11-11, which is considerably over five thousand rupees better than last year, in spite of the fact that the usual sum of Rs. 1,000 has not this year been contributed by the Assam Government towards our anthropological publications.* It must be mentioned, however, that all of our bills for books have not yet been received, and that there are some outstanding printing liabilities for publications in the press; but these do not vitiate our comparison with previous years, because we always close the year with such liabilities, and they are much less this year than usual.

Our expenses have been well within the sanctioned Budget Estimate, except in respect of *Journal Part I* which, as usual, has largely exceeded its grant, and this at the expense of the two other sections of the *Journal*. This is unsatisfactory: for members who contribute papers to the Philological and Literary Section of the *Journal* must bear in mind that we have Scientific traditions to uphold and Scientific interests to conciliate, and that with regard to Science in general and to that part of it in particular that relates to Ethnology (*Journal Part III*), we have undertaken definite responsibilities that we must fulfil.

As regards Receipts, our actuals have been well in excess of our Budget Estimate, by reason of an unexpected increase in subscriptions and admission fees; for these had been estimated on the statistics of the five rather lean years preceding 1898. The non-receipt of the contribution of Rs. 1,000 from the Assam Government was balanced by an unforeseen donation of a like amount from the Government of India for the purposes of the International Catalogue of Scientific Literature, to be presently referred to.

* [This sum has since been received. Hon. Genl. Secy., Feb. 10th, 1900.]

A review of our financial position will not be complete without a reference to the present value of our land and buildings.

The value of our land has undoubtedly increased, and this, which in itself is satisfactory, has lately been rather unpleasantly impressed upon us by the Municipal authorities, who have evinced a desire to hugely increase our assessment. Fortunately we have, for the present, persuaded the Municipality to deal gently with us, on the ground that, although our land may have increased in value, our building—which ties us to the land—has very greatly deteriorated.

We have taken steps to have our building properly surveyed, and we shall soon be in a position to make a balanced statement on this conflicting subject. For the present we can only emphasize the fact that we possess an old and probably precarious building of yearly decreasing value standing on land of such increased and increasing value that it may lay us open—and this is the point that will eventually urge us into action—to insupportable Municipal contributions.

An obvious solution of the problem—that the land might be made to yield the means either of reconstructing our building or of establishing ourselves anew on a smaller and less expensive site—will one day have to be considered.

The onerous duties of Treasurer were discharged first by Mr. R. D. Oldham and afterwards by Mr. W. K. Dods.

The Council propose the following estimates for the coming year. These, it will be observed, do not include either income or expenditure on the Royal Society's Catalogue operations, which cannot at present be decided. Nor do they provide for any repairs that may be called for when the survey of the building has been made.

BUDGET ESTIMATE FOR 1900.

	Receipts.								
	1899. Estimate.			1899. Actuals.			1900. Estimate.		
Subscriptions ... Rs.	6,600	0	0	7,744	1	0	7,000	0	0
Sale of Publications...	600	0	0	732	2	4	600	0	0
Interest of Investments	5,500	0	0	5,530	0	0	5,530	0	0
Rent of Rooms ...	1,200	0	0	1,200	0	0	1,200	0	0
Govt. Allowances ...	3,000	0	0	2,000	0	0	2,000	0	0
Miscellaneous ...	100	0	0	249	9	6	400	0	0
Total Rs.	17,000	0	0	17,455	12	10	16,730	0	0

Expenditure.

	1899. Estimate.	1899. Actuals.	1900. Estimate.
Salaries... .. Rs.	3,600 0 0	3,410 11 10	3,600 0 0
Commission ...	400 0 0	426 0 3	425 0 0
Pension... ..	52 0 0	52 0 0	52 0 0
Stationery ...	120 0 0	121 6 0	120 0 0
Lighting ...	60 0 0	23 0 0	60 0 0
Municipal Taxes ...	819 0 0	819 0 0	846 0 0
Postage... ..	600 0 0	445 0 3	550 0 0
Freight ...	80 0 0	56 4 5	70 0 0
Meetings ...	80 0 0	22 4 0	50 0 0
Contingencies ...	200 0 0	323 8 8	300 0 0
Books ...	1,500 0 0	303 11 6	1,500 0 0
Binding... ..	750 0 0	467 12 0	750 0 0
Journal, Part I ...	2,100 0 0	3,750 15 9	2,100 0 0
" " II ...	2,100 0 0	1,167 7 1	2,100 0 0
" " III ...	3,000 0 0	502 3 0	2,000 0 0
Proceedings ...	1,000 0 0	700 11 9	1,000 0 0
Printing Circulars, &c.	200 0 0	244 10 0	200 0 0
Registration Fee ...	5 0 0	5 0 0	5 0 0
Auditor's Fee ...	100 0 0	100 0 0	100 0 0
Petty Repairs ...	.....	237 8 0	250 0 0
Local Periodicals ...	16 0 0	16 0 0	.....
Furniture ...	140 0 0	116 0 0	.....
Catalogue ...	.....	30 8 0	.....
Total Rs.	16,922 0 0	13,341 10 6	16,078 0 0

Extraordinary Expenditure.

Library Catalogue ...	.....	.....	1,000 0 0
Total Rs.	.....	.....	17,078 0 0

Agencies.

Our London Agency is still in the hands of Messrs. Luzac and Co., from whom we have not yet received a final account. The value of the publications sent to them during the year amounts to £ 71-6-0 representing 757 pieces of the *Journal* and *Proceedings* and Rs. 559-8-0 representing 811 components of the *Bibliotheca Indica*. From them we have received books and papers of the value of £ 37-10-0.

Our Continental Agent is Mr. Otto Harrassowitz, to whom we have sent publications valued at £ 40-12-6 and Rs. 495-14-0, of which £ 29-14-2 and Rs. 106-6-10 worth have been sold for us.

Library.

The codified additions will be found as an appendix to the December issue of the *Proceedings*; they number 2545, of which 748 were purchases and 1797 donations or exchanges.

The extent and importance of our exchanges should appeal to those members who are inclined to advocate retrenchment in our publications.

A new edition of the Library Catalogue has been energetically taken in hand, and some provision has been made in the Budget Estimate of 1900 for proceeding to publication.

All the books, except those in the Oriental Library, have been thoroughly cleaned and poisoned against insects.

Publications.

Of the *Proceedings* ten numbers were published, namely, No. 11, (Index and Title-page) of 1898, and Nos. 1-9 of 1899. Among other matters of interest they contain reports of the sub-committees appointed to reprint the Society's Rules and to consider the resumption by the Society of its original title, and the scheme proposed by Mr. R. D. Oldham for establishing a Standard Time for the whole of India.

Of the *Journal, Part I*, four numbers were published; namely, No. 4 of 1898, and No. 1, and Extra Numbers 1 and 2 of 1899. The first Extra Number consists of Dr. Hoernle's report on *A Collection of Antiquities from Central Asia*, and is illustrated by a Map and 19 photo-etched plates, all of which were paid for by the Government of India. The second Extra Number is Dr. M. A. Stein's *Memoir on Maps illustrating the Ancient Geography of Kashmir*. This, though it was delivered by the Press in July last, has not yet been distributed, owing to the fact that the Society seems to have been, in some irregular way, pledged several years ago not to issue the Maps to which the *Memoir* relates until the same author's edition of *Kalhana's Rajatarangini*, which it appears the Maps are also intended to illustrate, should be published by Messrs. Constable & Co. The new regulations for the control of papers by the Council as a whole will, if observed, prevent the reoccurrence of irregularities of this kind.

Three numbers of the *Journal Part II*, have been distributed, containing several important papers on Zoology, and illustrated by two lithographed plates.

Of the *Journal, Part III*, only one number has been issued.

The other publications of the year are a Catalogue of the Society's Sanskrit Books and Manuscripts, Part I, and Catalogue of the Society's Arabic Books and Manuscripts, Part I, and a new and revised edition of the Society's Rules.

The *Proceedings* were edited by the General Secretary, Major A. Alcock, I.M.S., who also, under the new rules, was empowered to give general advice to the other Secretaries.

Part I of the *Journal* was edited by Dr. T. Bloch, who also had charge of the Coin Cabinet and reported on all the Treasure Trove coins sent to the Society. Mahamahopadhyaya Hara Prasad Shastri was Joint Philological Secretary.

Part II of the *Journal* was edited by Mr. F. Finn, and *Part III* by Mr. L. de Nicéville until the end of March and thereafter by Major L. A. Waddell, I.M.S.

Proceedings of the Council.

One of the most important pieces of business accomplished by the Council has been the appointment, at the request of the Royal Society and of the Government of India, of a "Regional Bureau," or Committee, to assist in carrying out the magnificent scheme of an *International Catalogue of Scientific Literature* proposed by the Royal Society. The Committee, whose duties will be to select and classify, from the mass of material published in India and Ceylon, the *data* required for the *Catalogue*, will act independently of the Council in their dealings with the "Central Bureau" in London, and will prepare their own annual report. The Government of India have sanctioned an annual grant of Rs. 1,000 towards carrying on the work.

Another matter of public importance, in which the Council was engaged, was the advocacy of Mr. R. D. Oldham's scheme for establishing a Standard Time for all India, after the continental manner. The Society takes a special interest in this subject because it promises to ensure precision in our meteorological and seismological observations, and it was encouraged to take the initiative in recommending it to Government in consequence of the success that attended its efforts of the year 1876 to ensure some provision for zoological research in the Hydrographic Survey of India. This time, however, the Government did not see its way to approve the Society's proposal.

Several matters of domestic interest have occupied the attention of the Council. First among these is the Library Catalogue. For some years past this Catalogue has been talked about: we have now arranged with Mr. H. B. Perie, formerly Librarian of the Indian Museum, to prepare it, in the convenient style of the Indian Museum Catalogue.

Mr. Perie has agreed to compile the catalogue and to see it through the press for an honorarium of Rs. 1,000. A permanent sub-committee, consisting of Dr. Bloch, Mahamahopadhyaya Haraprasad Shastri and Major Alcock, has been appointed to superintend the progress of the work.

A new and revised edition of the Rules of the Society has been published, and for the first time the Library Rules and the Council's Regulations regarding the submission of Papers for publication have been added as appendices.

The question of the Society's proper designation, which was raised by Major L. A. Waddell, I.M.S., has given some occupation to a special sub-committee. It appears from our Title-deeds that our original designation was "The Asiatic Society" and that for a great deal more than half a century this was the name that we ourselves used and by which we were officially addressed. The specific qualification "of Bengal," which ignores our Title-deeds, appears to have gradually established itself, but without — so far as we can ascertain from our records — any overt official sanction. In 1876 the Society was registered under the Registration Act, as the "Asiatic Society of Bengal" but there is no evidence on record that this change of name was formally proposed to and sanctioned by the Members. The sub-committee therefore recommended that the original name of "The Asiatic Society" should be resumed, and the Council endorsed the recommendation, which was then submitted to the whole body of Ordinary Members under Rules 64c, 64A and 65. More than a hundred voting-papers were returned, and although a large majority were in favour of the recommendation of the sub-committee a sufficient minority (under Rule 78) voted against it.

At the instance of Dr. G. A. Grierson the Council have arranged for the publication, in the *Bibliotheca Indica* series of a Kashmiri Dictionary. The work will be supervised by Dr. Grierson and will be printed, under his direction, in England.

On the recommendation of the Philological Committee, the completion of the late Professor Peterson's Edition of the *Upamiti-bhāna-prapancha-katha* for the *Bibliotheca Indica* series was entrusted to Professor Jacobi.

The request of Dr. Sten Konow to retain the two Nepalese MSS. *Gunakāraṇḍavyuha* and *Dvāvimśavadāna* for a further period of one year was agreed to by the Council; and the Buddhist MS. *Sugatāvadāna* was, on application, lent to the Librarian of the India Office for the use of Mrs. Mabel Bode.

Coin Cabinet.

The Coins have been in charge of the Philological Secretary, Dr. Bloch, who reports as follows:—

The following coins have been added to the Society's collection during 1899:—

Description of coin.	Gold.	Silver.	Copper.
Ancient India: Punch-marked ...		1	
Kalacuri kings of Mahākoçala:—			
Jājulladeva ...	1		
Pṛthvideva ...	2		
Sultans of Delhi:—			
Nāṣiruddīn <u>Khusrau</u> ...	1		
Moghul Emperors:—			
Akbar ...		5	
Jahāngīr ...		5	
Shāhjahān ...		1	
Aurangzeb ...		1	
Muḥammad <u>Shāh</u> ...		7	
'Ālamgīr II ...		1	
Undetermined ...			10
Tippu Sultān of Mysore ...		4	
'Abbāsi <u>Khalifas</u> :—			
Hārūn ar-Raṣhīd ...		2	
Total.	4	27	10

The gold coin of Nāṣiruddīn Khusrau and the two silver coins of Hārūn ar-Raṣhīd were given to us in exchange; the remainder are presentations by Government.

Bibliotheca Indica.

The following report has been drawn up by the Joint Philological Secretary:—

Twenty-four fasciculi have been published in this series. This is the normal number which the O.P. Fund can publish every year. So the present year is a year neither of great activity nor of slow work. The only noteworthy feature of the year's publication is the higher proportion of English translations to editions of Oriental works as compared to other years. The following translations have been taken up:—

Prabandhaointāmaṇi or Wishing-stone of Narratives composed by Meruṅga Ācāryya, at Vardhamānapura or Vadvana in Kattiyawād in Saṃvat 1362. It is one of the semi-historical works brought to light

by the exertions of the late lamented Hofrath Bühler. The writer is a Jaina, the disciple of Candraprabha. He throws much light on the history of Mālava and Gurjaradeça during the centuries just preceding the Muḥammadan Conquest. The translation has been entrusted to the distinguished scholar C. H. Tawney, Esq., M.A., C.I.E., and as a special privilege he has been allowed to have it printed in England. The first fasciculus has appeared during the year.

The other English translation undertaken this year is that of the third volume of the *Muntakhabu-t-Tawarikh* by Al-Badaoni, under the editorship of Captain T. Wolseley Haig, I.S.C., M.R.A.S. The translation of the second volume was completed some years ago by Professor Lowe of Cambridge, and that of the first volume has just been completed under the editorship of Lieutenant-Colonel G. S. A. Ranking.

The new Sanskrit works undertaken during the year are three, two of them are works of the highest importance, namely,—

Upamitibhavaprapañcā Kathā by Siddharṣi, one of the greatest Jaina writers. Siddharṣi was the cousin of the celebrated poet Māgha. He was a brāhman and a wealthy man too, being the grandson of Suprabhadēva, the Prime Minister of the Rājā of Çrimāla in Katiyāwād. His date is variously estimated by Klatt in the tenth, by Jacobi in the seventh, by Merutunga in the eleventh, and by the editor the late lamented Professor P. Peterson in the fifth century A.D. Professor Peter Peterson met with an untimely death after publishing the first two fasciculi only of this work. It has now been entrusted to Professor Dr. Jacobi of Breslau.

The other new work undertaken is the Mahābhāṣyapradipodyota. It is a Commentary in the second remove on the "Great" Bhāṣya of Patañjali, Kaiyaṣa wrote a Commentary on the Mahābhāṣya entitled Mahābhāṣyapradipa. On that Commentary Nāgeça Bhaṭṭa in the last century wrote a Commentary known as Udyota. The Society has now undertaken a critical edition of this work and has entrusted it to a young Paṇḍit Bahuvallabha Çāstri.

The third work is Bhāṭṭa dipikā by Khaṇḍadeva an elementary work on the Mīmāṃsā School of Hindu Philosophy under the editorship of Candrakāpta Tarkālaṅkāra.

One of the works that has come to an end is the Cāṅkhāyana Çranta Sūtra with its Commentaries in four volumes under the editorship of Professor Dr. Hillebrandt of Breslau.

Taittiriya Kṛṣṇa Yajur Saṃhitā also has come to an end. The work was commenced by Professor E. B. Cowell in 1854. On his retirement Mahāmahopādhyāya Maheca Candra Nyāyaratna became the editor and continued the work for a long series of years. Pressure of

other duties obliged him to resign the editorship which on his recommendation was entrusted to Paṇḍit Satyavrata Sāmaçrami and that distinguished Vedic Scholar has brought the work to a close with a complete scientific apparatus of references, indices, &c. The work has taken 46 years. Paṇḍit Sāmaçrami's preface though short is extremely valuable for a Vedic Scholar.

Parāçara Smṛti with the Commentary by the celebrated Mādhavā-cāryya also has come to an end under the distinguished editorship of Mahāmahopādhyāya Candrakānta Tarkālaṅkāra with indices and a preface. It is the Standard work of Hindu Law and Ritual in Southern India.

The translation of the first volume of the *Muntakhabu-t-Tawarikh* has been completed with an elaborate index by Dr. Ranking.

The President announced that the scrutineers reported the result of the election of Officers and members of Council as follows:—

President.

His Honor Sir John Woodburn, M.A., K.C.S.I.

Vice-Presidents.

H. H. Risley, Esq., B.A., C.I.E., I.C.S.

Col. T. H. Hendley, C.I.E., I.M.S.

Major A. Alcock, M.B., C.M.Z.S., F.G.S., I.M.S.

Secretaries and Treasurer.

T. Bloch, Esq., Ph.D.

F. Finn, Esq., B.A., F.Z.S.

Major L. A. Waddell, LL.D., I.M.S.

T. H. Holland, Esq., F.G.S., A.R.C.S.

Mahamahopadhyaya Hara Prasad Sastri, M.A.

W. K. Dods, Esq.

Other Members of Council.

J. D. Nimmo, Esq.

Dr. Mahendra Lal Sircar, M.D., C.I.E., D.L.

C. L. Griesbach, Esq., F.G.S., C.I.E.

M. H. Oung, Esq.

W. A. Lee, Esq., F.R.M.S.

A. Pedler, Esq., F.R.S.

G. W. Kuchler, Esq., M.A.

L. de Nicéville, Esq., F.E.S., C.M.Z.S.

F. E. Pargiter, Esq., B.A., I.C.S.

The President also announced that two Essays on the prescribed subject of Chemistry had been received in competition for the Elliott Prize for Scientific Research for 1899, but that neither of them were of sufficient merit to justify the award of the prize.

The outgoing PRESIDENT then delivered the Annual Address.

ANNUAL ADDRESS, 1900.

During the past year we have elected 30 new paying members. Our numbers now stand higher than at any time since 1893, and they are continually on the increase. The proposals of five Foreign Scientific Societies of standing, to exchange publications with us, have been accepted.

The original papers presented for publication to the various Secretaries have been so numerous that we have been compelled to insist on compliance with the rule recently passed, forbidding the printing of any paper whatever without the previous formal and specific sanction of the Council.

Several matters of special importance, both domestic and public, have engaged the attention of the Council.

As regards matters of domestic interest: we have amended and reprinted our Rules, in consultation with the whole body of members; we have sanctioned arrangements, which are now in progress, for a much-needed Library Catalogue; we have successfully averted a proposal of the Municipality to greatly increase our assessment; and, finally, we have taken much pains to discover our own name. The evidence of our title deeds makes for the view that we have still the right to call ourselves "The Asiatic Society," but a sufficient minority of members have voted against the proposal to resume the original name and no change will be made.

With regard to matters of public interest, the Society has taken two important steps, both of them being towards the unification and consolidation of Indian contributions to science.

We have, at the request of a committee representing the Royal Society, and with the countenance of the Governments of India and Ceylon, undertaken to select and codify, from the mass of material published in these two countries, all the local data required for the International Catalogue of Scientific Literature. This undertaking, which involves the establishment, within the Society, of a distinct department with definite responsibilities of its own, has been

subsidized by the Government of India, and is now in working order.

On the other hand, our attempt to ensure precision in meteorological and seismological data, by advocating the establishment of a standard time for all India, somewhat after the Continental manner, was unsuccessful, the Government being of opinion that the time for action had not yet come.

Our financial position has decidedly improved, and we close the year with a balance of Rs. 1,52,452-11-11 to our credit, which is Rs. 5,247-10-10 more than our closing balance of the previous year, notwithstanding the fact that the Assam Administration has omitted to pay its usual contribution of Rs. 1,000 for anthropological research. The balance looks well, but we must not forget that our building is an extremely old one and that we may any day have to face the question of rebuilding.

Of the first part of the Society's Journal, dealing with History, Literature, etc., three numbers—two of which are "Extra Numbers"—have been published; but of the Extra Numbers, one, though it was delivered by the press in July, has not yet been issued, owing to a complication which is explained in the Report.

The first number of Journal Part I. is occupied by an essay by Dr. G. A. Grierson on the verb and indeclinable particles in the Kāçmīri language, which brings to an end this author's series of articles on Kāçmīri Grammar published in previous years. As to the importance of these essays, I may quote Dr. Grierson's own words, taken from the preface to a separate edition of them. "It is hoped," he says, "that, as now completed, they will be found to give a much fuller account of that interesting language than has hitherto been available. Besides those who wish to study Kāçmīri for its own sake, it is also of considerable interest to comparative philologists. I know of no Indo-Aryan language which in her grammatical construction is so naked and unashamed. With but the thinnest veil of mystery, she freely displays to the ardent eyes of the student, not only the general contour of her graceful form, but each joint, each articulation. Devoid of every feeling of false modesty, she discloses many a secret which is jealously hidden by her more prudish sisters of the south. It is sufficient to point out that a study of Kāçmīri is an essential preliminary to any enquiry which deals comparatively with the mutual relations of the modern Aryan vernaculars of India."

The source from which the information contained in these essays has been taken, is a grammar of the Kāçmīri language, written by a Kāçmīri Paudit, Içvarakaula by name, according to the style of native

Hindu Grammar. This work, called the "nectar of Kāçmīrī words," has been edited by Dr. Grierson and published by the Society. Besides the grammar, there also exists a Kāçmīrī dictionary, composed by the same Içvarakaula in the style of Sanskrit Koshas. An edition of this dictionary has now been undertaken by the Society. Its publication is intended for the Bibliotheca Indica Series, and the work was at first entrusted to Pandit Govind Kaul, the best modern Pandit in Kashmir. After his death, the Council engaged Pandit Mukund Ram of Srinagar, who will be supervised by Dr. Grierson, to carry on the work. The Society thus may claim the merit of having done a great deal towards elucidating the grammatical structure of an important but hitherto much neglected vernacular of India, and its thanks are more especially due to Dr. Grierson, whose work in this direction is highly appreciated by all students of modern Indo-Aryan vernaculars.

The ancient topography of Kashmir has been exhaustively discussed in the Memoir by Dr. Stein, published as Extra Number 2 of Journal Part I. This Memoir is accompanied by two excellent maps prepared for the Society by the Survey of India Office and primarily intended to be issued together with Dr. Stein's translation of the ancient chronicle of Kashmir, called the Rājatarāᅅgiᅅī, which was composed by Kalhaᅅa in the years 1148-49 A.D.

Dr. Stein has devoted much time and energy to the study of the history and antiquities of the Kashmir Valley. He succeeded in discovering the *Codex Archetypus* of Kalhaᅅa's chronicle, and has brought out a model edition of it far surpassing the earlier editions of the same work. During a series of visits to Kashmir, he has been very successful in identifying ancient places and following up, in the track of the ancient historians, the topography and antiquities of this interesting country. What he now has presented in his Memoir is a systematical exposition of the final results of his studies, as far as topography is concerned. We may be proud to count among our publications what is probably the best treatise published hitherto on any part of ancient Indian Geography.

The country further to the north of Kashmir, the great Central Asian desert, has of late become more and more important to the student of Indian Antiquities. It appears that the numerous Buddhistic ruins there contain many buried treasures, of which as yet only a portion has come to light. The discovery of the Bower Manuscript, written on birch bark in the fifth century A.D., first drew attention to this fact. Contrary to Indian experience, the dry climate of the sandy desert of Central Asia is very favourable to the preservation of anti-

quities, especially Manuscripts, and we may look to this country for many new and important discoveries. Dr. Hoernle, the decipherer of the Bower Manuscript, was the first to recognise this fact, and it was at his suggestion and through the influence of Sir Charles Lyall, who was then the Home Secretary to the Government of India, that the Indian Government issued orders to their Political Agents in Central Asia to secure any specimens of manuscripts and antiquities that they might hear of. The result has been a very large collection of Central Asian antiquities, which from time to time have been sent to Dr. Hoernle to be deciphered and identified, and to be finally deposited in the British Museum.

The first report on some of these, by Dr. Hoernle, has been published as Extra Number 1 of Journal Part I. It is illustrated by 19 plates, beautifully executed in photo-etching by the Survey of India Office, at the expense of the Indian Government. The Government also very liberally contributed a sum towards meeting the additional expenses involved in printing the text of this Report, which is devoted to coins, seals, and intaglios, and block-prints. The coins are very numerous and of various designations—Graeco-Bactrian, Indian, Muhammadan, and Chinese including even a Russian five Kopeck piece of the year 1758. One class, however, is of particular interest. These are copper coins inscribed on one side in Chinese, and on the other in an Indian language, the latter being written in the so-called Kharoṣṭhī script which was in use in the north-western corner of India during the last centuries before and the first after Christ. The Chinese legend gives the value and weight of the money only, while the Indian legend contains the name of the king who issued the coin. Dr. Hoernle distinguishes three, or perhaps five, of those kings, who all had a name beginning with *Gugra*, a word of very uncertain meaning. He assigns them to the period of 73-200 A.D. They were Uighur or Turki kings of Khotan, who reigned after the northern part of this kingdom had severed itself from its former connection with India, and had submitted to the Chinese empire. It is, as Dr. Hoernle says, owing to this fact that the Uighur coinage of Khotan was assimilated to the Chinese standard, and that its obverse legend, which had previously been Greek, was replaced by a Chinese inscription, while the reverse legend still continued to be expressed in the official Indian language and Indian-Kharoṣṭhī characters.

The block-prints are in a variety of unknown characters, which still wait for their decipherer. So much, however, is certain, that, in Dr. Hoernle's own words, they contain "interminable repetitions of the same text, which seems clearly to indicate that in these books we are

dealing with set formulas—creeds, prayers, or incantations, or whatever one may call them,—possibly or probably Buddhistic,—the virtue of which was supposed to be in proportion to their repetitions.” As regards the genuineness of these books, which has been doubted, Dr. Hoernle, after careful consideration of the evidence, decides in favour of all or almost all of the books examined by him.

At the last annual meeting, we had the pleasure of listening to an account by Professor Bendall of the results of a tour made by him and Mahamahopadhyaya Hara Prasād Shastri in Nepal in search of Manuscripts and Inscriptions. One of the results of this journey was the discovery of an old Manuscript of the poems of Vidyāpati, which in many important points differs widely from the versions now current in India. An edition of this interesting Manuscript is now being prepared by Mahamahopadhyaya Hara Prasād Shastri for the Bibliotheca Indica Series. He also has published in the *Proceedings* of the Society a notice of another interesting Manuscript discovered by him in Nepal. It is a Buddhistic work, the *Aṣṭāsahasrikā Prajñāpāramitā*, which was written in Nālandā, the famous seat of Buddhistic learning in Behar, during the time of Mahīpāla, in the beginning of the eleventh century A.D.

In connection with Manuscripts, I may mention that a list of all the Sanskrit Manuscripts kept in the Society's Library has been prepared by one of the Society's Pandits. It has been compiled on the same lines as the Catalogues of our Persian and Arabic Manuscripts, and it is published under the supervision of the Philological Secretaries. During the last year the first fasciculus has been issued. As no catalogue of our Sanskrit Manuscripts existed, it is hoped that the present list will supply a decided want, and that it will be welcomed by all those who take an interest in Sanskrit studies.

In the Bibliotheca Indica Series, a number of new publications, besides those already referred to, have been taken up during the last year. Among them is an English translation of Merutuṅga's *Prabandhacintāmani*, by Professor Tawney. This work, among many legendary tales, contains some valuable historical information about the kings of Malwa and Gujarat, and is often referred to in Forbes's *Ras Mala*. The *Upamiti-bhava-prapañca-kathā* is the oldest collection in India of allegorical stories. It was composed in Sanskrit by a Jaina author, Siddharṣi by name, in the 9th century A.D. An edition of the same was begun by Professor Peterson; but, unfortunately only two fasciculi and the greater part of the third fasciculus had been finished at the time of his death. The work is now in the hands of Professor Jacobi of Bonn, one of the greatest living authorities on Jaina Literature.

Of Badaoni's *Muntakhabu-t-tawdrikkh*, two volumes, dealing with the history of Muhammadan rule in India before Akbar, and with the history of Akbar himself, have been translated previously. The third volume, which contains a detailed account of the saints and learned men of Akbar's time, is now being translated by Captain Haig, who has already issued the first fasciculus of his translation.

During the last year, 346 treasure trove coins have been examined and described by the Philological Secretary. The greater portion of them belonged to Moghul Emperors. It was the fashion with many of those Emperors to inscribe Persian couplets on their coins. This is, however, extremely rare in the case of Muhammad Shāh, and only one such coin, struck at Surat, has yet come to light. Mr. Rodgers, who edited it, accordingly doubted its genuineness, but Mr. Irvine, in a short note published in last year's *Proceedings*, shows that this coin is quite in keeping with a statement contained in the *Misāt-i-Ahmadi*, a Muhammadan history of Gujarat, and that we have no reason to doubt its genuineness. Dr. Hoey has published a note on the oldest gold coinage of India, the *suvarna*, which he believes to have been perforated pieces of gold with raised rims, similar to some pieces found by him in Set Mahet. It may be observed, however, that nowhere in India in historical times do we find perforated coins, like those of China, though we might expect to do so if it had once been a widespread fashion to use such pieces of metal as money. Moreover, on ancient reliefs such as those representing Anāthapiṇḍa in the act of covering the ground of the Jetavana with gold coins, we find gold coins represented as square pieces with some marks on them, probably intended for something like the so-called "Punch-marked" coins, of which, however, only pieces in silver or mixed metal have yet been discovered.

Finally, I may mention a short paper by Dr. Waddell, published in the *Proceedings*. Its object is to prove the identity of Upagupta, the high-priest of Aṣoka according to northern Buddhist tradition, with Mogalliputta Tisso of the Pali Literature.

The Rev. H. B. Hyde published a note on the first marriage of Warren Hastings with the widow of Captain Buchanan, one of the victims of the Black Hole, and gave a revised list of the victims of that disaster. We may hope that Mr. Hyde will extend to the antiquities of Madras the talent for research which he displayed so conspicuously in Calcutta.

Part II. of the Journal has this year risen to three numbers, and a portion of the grant is still unexpended; some important papers have been published.

Major Alcock, I.M.S., has continued his contributions to Indian

Carcinology, and has published three papers, two of which are finished monographs, according to modern standards, of the groups with which they deal, namely the *Brachyura Cyclometopa* and the *Brachyura Primi-genia* or *Dromiacea*. The third is of more general and bionomic interest, and refers to the subject of commensalism between Zoophytes and Hermit crabs.

Mr. de Nicéville has worthily continued his work on Oriental Lepidoptera by a List of the Butterflies of Ceylon, and a brief paper by Dr. Hooper on the ancient drug Akakia has revived a branch of our subject which has long been without contributions.

For the rest, Ornithology has been unusually to the fore this year. The birds of Manipur form the subject of a paper communicated by Lieut. H. H. Turner, and a short note by Captain H. S. Wood, I.M.S., gives a much-needed account of the rare Hume's Bush-quail (*Microperdia manipurensis*) of that State. Lastly, the Natural History Secretary, Mr. Finn, has been able to make several ornithological exhibits, often of living birds, including specimens of the rare Bronze-Cap (*Eunetta fulcata*) and Clucking (*Nettion formosum*) Teals; and has described a new species of Bhimraj or Racket-tailed Drongo (*Dissemurus alcocki*) and also what has turned out to be the long-unknown summer-plumage of Hume's large Weaver-bird (*Ploceus megarhynchus*).

The biological work of the Indian Marine Survey is so intimately connected with the history of the Society that its progress during the year may be appropriately referred to here.

The long series of deep-sea investigations, which the Survey has been patiently carrying on for nearly fifteen years, and the results of which have hitherto been known only through preliminary communications, are now beginning to culminate in important monographs, the interest of which is quite as much bionomic and zoogeographical as faunistic. During the year there have been published volumes on the Deep-sea Madreporaria, the Deep-sea Brachyura and the Deep-sea Fishes by Major Alcock, and on the Deep-sea Ophiuroidea, by Dr. R. Koehler of Lyons.

Besides this, Major Alcock has published in the "Scientific Memoirs by Medical Officers of the Army of India" a summary of the Deep-sea Zoological work of the Survey."

The circular issued by the Society has borne fruit in a number of papers on folk-lore, which will be welcome to the numerous students in Europe who are at work on this fascinating subject. I may mention here that Mr. A. M. Jackson of the Bombay Civil Service, a well-known scholar and ethnologist, has had the circular translated and sent round to a number of village school-masters in Gujerat, whose replies

he will collate and examine as soon as he can find time to do so. The example is one that might be followed with advantage. In India, as in Europe, the great object of enquiries such as the circular suggests is to preserve and record those unwritten legends, superstitions, and traditions, the memory of which fades as popular education spreads. There is a certain fitness in employing the *Guru Mahásaya* to preserve that which it is his official function to destroy, and he has unrivalled opportunities for procuring exactly the information which we want.

Mr. Friend-Pereira's translations of some Khond (Kandh) songs enshrine some curious fragments of history and superstition which in a generation or two will probably have been forgotten. Passing by the lover's entreaty that the girl he is courting will 'gladden his liver by moving her body in the dance,' which recalls Horace's moral counsel "*Non ancilla tuum jecur ulceret ulla, puerve,*" we find a reference to the Páns, the helots of the Kandhs, who worked for them as weavers, and furnished the Meriah who was sacrificed to ensure good crops and general prosperity. The hymn to the earth god, which follows, is a revised version of an earlier and more ghastly hymn in which the human victim was apostrophised by the worshippers. It refers, however, to the original practice and its abolition by the "*saheb* sons" and "*pathán* sons," the latter being probably Muhammadan sepoy's employed on the suppression of human sacrifice, and it seems probable enough that the verses describing the magical effect of the tears and blood of the victim may have been simply passed on from the earlier hymn.

"Thou hast come, thou hast come, O curved-horn buffalo ;
To thy death thou hast come.

* * * * *

At present through fear of the *saheb* sons
From thy shoulder we take the flesh ;
Through fear of the *pathán* sons
From thy cheek we take the flesh.
In the country of former times
We used to bury a human being.
Do not cry out to me, O beautiful buffalo ;
Do not cry out to me, O curved-horn buffalo.
As the tears streams from thine eyes,
So may the rain pour down in *Asár* ;
As the mucus trickles from thy nostrils,
So may it drizzle at intervals ;
As thy blood gushes forth,
So may the vegetation sprout ;

As thy gore falls in drops,
So may the grains of rice form.

* * * * *

O demon of the refuse heap,
O demon of the dung-hill,
Go you to sleep, go you to sleep.
For twenty years sleep thou,
O demon of the refuse heap ;
For twelve years sleep thou,
O demon of the dung-hill.
Keep illness away, keep fever away,
To you will I sacrifice a beautiful buffalo.
Do not touch the children
Be as one dead, O earth-god ;
Do not touch the little ones
O earth-god, O deaf, unheeding earth-god.

It is an excellent illustration of that singular system of departmental bogeydom which people have now agreed to call by the not very suitable name of *animism*, that the demons of the refuse-heap and the dung-hill should be entreated by sacrifice to keep illness and fever away. On this Mr. Friend-Pereira observes in a note, "It is remarkable that the Kandhs know that filth and decaying refuse are the principal factors in causing epidemic diseases. And yet their villages are anything but clean." But surely the Kandhs do not know anything of the kind. If they did they might perhaps remove their dung-hills. As it is they doubtless regard them as the homes of the fever demon whom they would naturally be reluctant to disturb, and it is the demon and not the dirt that in their view causes the fever. Having offered a suitable sacrifice they have done their part and must leave the rest to the heads of the fever department. That is the theory of the thing, and the practice too among most wild people that I know of. But I hope Mr. Friend-Pereira will inquire further. It looks as if he were on the track of very interesting discoveries.

I must permit myself one more extract which describes the administration of the Kandh country by Captain Campbell (Kaibon Sahib) in 1836-42 and Captain Macpherson (Mokodella Sahib) who succeeded him in 1842 and was the first agent for the suppression of human sacrifice and female infanticide under Act XXI. of 1845.

At the time of the great Kaibon Saheb's coming the country was in darkness ; it was enveloped in mist.

And how was the country enveloped in mist ?—there was murder and bloodshed ; conflagration of villages ; destruction of rice and crops.

Brothers and uncles sat together and deliberated how they were to act.

While they were discussing whether they would live or die the great Kaibon Saheb came.

All the people fled in terror ; the Saheb said, " brothers, uncles, fear not ; Maliko Knaro come to me."

Having sent *paiks* to collect the people of the land (they), having surrounded them, caught the *meria* sacrificers.

Having caught the *meria* sacrificers, they brought (them) ; and again they went and seized the evil councillors.

Having seen the chains and shackles the people were afraid ; murder and bloodshed were quelled.

Then the land became beautiful ; and a certain Mokodella Saheb came.

He destroyed the lairs of the tigers and bears in the hills and rocks, and taught wisdom to the people.

After the lapse of a month he built bungalows and schools ; and he advised them to learn reading and law.

They learnt wisdom and reading ; they acquired silver and gold ; then all the people became wealthy.

We may I think point to that as a *monumentum ære perennius* not merely of the pacification of the Kandhals by the men whose names are still had in remembrance in curiously travestied forms by a grateful people, but of the methods to which British officers owe their success in dealing with primitive folk all over the world. We are greatly indebted to Mr. Friend-Pereira for rescuing from oblivion this and other Kandh songs, and I am sure you will join me in the hope that he will pursue his researches in a region which promises so well.

I am indebted to Mr. Holland for the following abstract of his paper on the Coorgs and Yeruvás which promises to do much to clear up the Ethnology of Southern India.

" In the little province of Coorg, which embraces a semi-isolated portion of the Western Ghats of South India, we have an interesting instance of the way in which a mountainous and jungle-covered country has been turned to totally different purposes by two distinct races. Like many of the aboriginal tribes of South India who have been compelled to retire to the unhealthy hills before the southward spread of the Aryans, the Yeruvás found in Coorg an asylum of refuge from the aggressive invaders, whilst the Coorgs, besides finding in the thick jungles the means for satisfying their hunting propensities, regarded the small plateau, with its steep and narrow approaches, as a natural *point d'appui* for predatory excursions into the country of their wealthier,

but less warlike, neighbours living on the rich agricultural lowlands around.

"The sporting and fighting proclivities of the Coorgs reveal themselves even in their festive and religious ceremonies. From his very birth, when a bow-and-arrow made from the castor-oil plant is placed in the hands of the small baby-boy, the Coorg male is, or at least in the old days was, regarded as a huntsman and a warrior, whose first pride should be in his size and physical strength. The selective influences arising from this have combined with many healthy habits to make the Coorgs the finest race, without exception, in South India.

"The unique privileges they enjoy in the system of administration, and, amongst other things, their exception from the provisions of the Disarming Act which was enforced after the Mutiny, are merely present-day expressions of the peculiarities in history which have distinguished Coorg from the rest of South India; and, assuming that the history of a country is necessarily dependent on native character, it is interesting to find by actual measurement that the Coorg people occupy amongst the races of South India a completely isolated position in regard to their physical characters as they do in history, tradition, customs and dress.

"The extensive and excellent researches by Mr. E. Thurston in the Madras Presidency enable us to show that there is at any rate no consanguinity between the Coorgs and the Dravidian races of the South. The traditions concerning their origin bear the stamp of comparatively recent manufacture, and their language being now a dialect of the Canarese prevalent in that region, we have no clue to their origin. Until, therefore, further anthropometric researches have been made in Peninsular India, the social affinities of the Coorgs must remain undetermined.

"The average height of the Coorg man is 168·7 cm. (5 ft. 6½ in.), which is only equalled by the Todas (169·6 cm.) amongst the native races of South India, all other tribes being below 165 cm. Their nasal index (72·1) is of a higher type than any of the people of the South except the nomadic Lambadis (69·1), who have a fair skin and speak an Aryan language, and the Sheik Mahomedans (70) who claim to be descendants of recent immigrants from the North. Regarded as percentages of the stature, they have a distinctly shorter foot, shorter fore-arm, and narrower span than the other tribes, and these characters are approximately coincident with what we generally consider to be concomitants of racial superiority. In many of these points the Coorgs are closely approached by the Todas; but they are sharply distinguished from these peculiar people by showing the only approach to brachy-

cephalism so far discovered in South India. With an average cephalic index of 79.9, the Coorgs just escape inclusion in Broca's class of sub-brachycephali. Of the other races in South India measured by Thurston, none is even mesaticephalic, whilst the Todas are decidedly dolichocephalic. The small tribe of 32,000 Coorgs thus occupy a completely isolated position amongst the races of the South.

“For the purpose of detecting any traces of aboriginal blood in the Coorgs I have made a comparative examination of the next largest caste in the province—the Yeruvas, with whom the Coorg have been in close contact from time immemorial. The Yeruvas in physical measurements and ethnographical characters fall into a group with the Kurumbas, Irulas, Paniyans and Kadirs—people of a very dark colour, curly hair, thick, slightly everted lips, feeble prognathism, distinctly platyrrhine noses (index 89.6), low stature (158.7 cm.), and comparatively long feet, long fore-arms, wide span and dolichocephalic cranium (73.6). By selecting from amongst the Coorgs those whose nasal indices are higher, more platyrrhine, more aboriginal so to speak, than the average, and from these picking out the individuals more dolichocephalic, that is also more aboriginal, than the average, we find that in the comparative length of arm, span, foot, and size of chest these do not show the slightest average tendency towards the Yeruva type. Conversely, by selecting from amongst the measured Yeruvas, those which have a higher type of nose than the average and from these separating the specimens which show a tendency towards brachycephalism, we find that in the other characters which distinguish the two tribes these Yeruvas do not show the slightest Coorg affinity. The actual figures will appear in the paper; but meanwhile it should be stated that these statements refer to averages; for whilst I have not found a single Yeruva who uniformly shows a tendency towards Coorg characteristics, I have met with two individuals with Coorg names, who, besides having longer heads and broader noses than their fellow-tribesmen, show also in all other points a tendency to conform to aboriginal characteristics. Accidents will of course happen in all communities; but I look upon the results of these experiments as a confirmation of Mr. Risley's assumption that the marriage customs resulting from the rigid observance of caste regulations render the methods of anthropometry superior in accuracy to all other forms of anthropological research, and on this account India offers an unusually favourable field for physical measurements.

“Whilst the origin of the Yeruvas clearly becomes part of ‘the Dravidian problem,’ the unique position of the Coorgs remains unexplained. Assuming that the tall, fair, dolichocephalic people of the

Punjab are actual descendants of the original Aryan invaders, Mr. Risley has traced the so-called Aryan type fading out in the direction of Bengal, where it comes into contact with Dravidian and Mongolian elements. But the recent researches of European anthropologists do not leave undisputed the assumption that the people who spoke the undivided Aryan tongue were dolichocephalic. On the contrary, many authorities profess to trace the source of the Aryan languages to the tall brachycephali who built the pile-dwellings of the Swiss and Italian lake country, and who showed their intellectual superiority to dolichocephalic Teutons by the domestication successively of the ox, the goat, sheep, pig, and horse; by the use of superior implements; by the practice of agriculture; and by other signs of a progressive civilization. Is it possible, then, that the Coorgs are a last remnant—a small “outlier,” to use an equivalent geological term—of the original Aryan invasion, and that the tall, fair, dolichocephalic tribes of the Punjab are a subsequent intrusion of people who, like the Teutons of Europe, had meanwhile adopted an Aryan language? The chain of evidence to support this assumption must necessarily have many weak links; but the discovery of the Coorgs shows that, besides the comparatively recent, so-called Aryan, trespass on Dravidian territory, there is a chapter in the anthropological history of India which remains still to be deciphered.”

I desire to add my testimony to that of Mr. Holland as to the great value of Mr. Thurston's anthropological work in Madras. In his report on the administration of the Government Museum at Madras for the year 1898-99, Mr. Thurston gives only too brief an account of his recent operations. He made a tour last year among the Malaiális of the Shevaroy hills, who, though calling themselves hill-people and living on the summit and slopes of the hills, turn out to be merely Tamils who migrated from the plains—probably from Conjeveram—in comparatively recent times. Can it be that the affectation of coyness with which these people received Mr. Thurston was due merely to the apprehension that their pretensions to be genuine hill-men were about to be unmasked? On the Malabar coast Mr. Thurston examined Cherumans, Tiyans and Eurasians—the latter a type which anthropologists have as yet taken little notice of. He went on to deal with the Kádirs of the Anamalai hills, “the existing remnant of a once more numerous race.” These people alone in India resort to the practice common in Africa and the Malay Archipelago of chipping the incisor teeth of both sexes to a sharp point. They also climb trees by means of pegs in a fashion which corresponds in every detail to that followed by the Dyaks of Borneo.

It is a matter for congratulation that an area which promises to prove exceptionally rich in all kinds of survivals should have been taken in hand by such competent inquirers as Messrs. Holland and Thurston. To their names I may add that of Mr. Mullaly, now Assistant Inspector-General of Police in Madras, whose researches among the criminal tribes of the Presidency are well-known and have an interest far beyond the limits of his Department.

An equally interesting and even less-known area on the north-east frontier, the valley of the Brahmaputra and the adjacent ranges of hills, has been taken in hand by our Anthropological Secretary, Major Waddell, who is specially qualified for the task by his anthropometric researches among the Himalayan tribes of Sikkim, Eastern Nepal, and British Bhutan, the Kochh of Northern Bengal, Tibetans from all parts of Tibet, including the valley of the Tsangpo, the Upper Brahmaputra, and also most of the tribes of Burma as far up as the Kachins or Siugphos above Bhamo on the confines of China and Assam. Major Waddell's observations, which will be published in an early number of the *Journal of the Society*, will furnish exact details of the physical type of the tribes of Assam and the Brahmaputra Valley and will include a record of the colour of the skin and eyes—the first attempt of the kind in India. The opening paragraphs of his paper, which he has kindly permitted me to quote, describe the almost untouched field which his researches will open up :—

“ Few of the wilder parts of the world, still left, preserve such a vast variety of savage tribes of such great ethnological interest as the mountainous valley of the mighty Brahmaputra, in its course from Lower Tibet to the Bay of Bengal. And in few localities has the war of races raged more fiercely.

“ This hilly region, standing up between China, India, Tibet, and Burma, has come to be the last refuge of scattered families of the more primitive hordes from each of those countries. Driven into these wild glens, by the advance of civilization up the plains and lower valleys, they have been hemmed in among the mountains, where, pressing on each other in their struggle for existence, they have developed into innumerable isolated tribes, differing widely in appearance, customs and language; but all alike engaged in blood-thirsty feuds, head-hunting, and murderous raids on their more defenceless neighbours. Many of them are of that extremely barbarous type which is popularly associated with South Africa. Almost equally painful, too, was the condition of the rich plain fringing the great river—the plain of Assam whose history

¹ *Journ., Anthropol. Inst.*, Vol. xx. (1891), p. 241.

up till the British occupation, was one long tale of inter-tribal conflict, invasion and cruel extermination.

“These wild hillmen, however, bordering the valley, were little affected by the British occupation for a long time. They proved to be so hostile, and their country so impenetrable, that, although a large section of their mountains had for many years lain nominally within the British territory of Assam and North-Eastern Bengal, our Government was content to leave them and their country alone, except for an occasional expedition and the establishment of a few military outposts, to punish a particular tribe for raiding or massacring British subjects.

“Since, however, the extension of the tea industry and other European interests in Assam, and still more so since the annexation of Upper Burma in 1886, the Indian Government has been actively opening up and settling that large section of these mountains on the southern side of the valley, between Assam and Upper Burma, in order to put a stop once for all to that murderous raiding by the tribes, which has been a perpetual terror and menace to all civilization in their neighbourhood.

“Following disarmament and the military occupation of several parts of the hills, roads and, latterly, that most powerful of all disintegrating social factors—the railway—are being rapidly pushed through amongst the dreaded hills. And this development is not likely to relax, for this tract is on the direct route from India to the heart of China. Already, it is said to be no uncommon sight to see a *Naga* who only two or three years ago was a naked head-hunting savage of the most pronounced type, now clad in a tweed coat and carrying a Manchester umbrella, taking his ticket at a railway station.

“Unfortunately for science, however, no steps are being taken to record the rare vestiges of prehistoric society which still survive here; but which are in danger of being swept away by our advancing civilization. Beyond a few fragmentary lists of words in several of the dialects and some grammars, which after all are of secondary importance, extremely little is known of the most interesting tribes in this part of Indo-China. The little that is known is just sufficient to show that some of them are in many respects in a much more primitive condition than the wildest tribes of India; and that here, almost at our very doors, is a unique mine of unexplored material to yield the very kind of unrecorded information which Professor Tylor and those others who have raised Anthropology to a science, have shown the urgent necessity for fixing without delay; and for which they have been ransacking the few remaining wilder parts of the world before the surviving traces of prehistoric usage are irretrievably lost.

“ Thus, for example, in this part of Indo-China still persists, amongst the *Garos*, *Kasias* and the wilder *Koch* tribes, that once widespread stage of primitive society, about which so little is known—the ‘maternal’—in which descent is traced through the mother, and not through the father, as in civilized society, thus implying a somewhat promiscuous state of the family. Others again, such as the *Miris*, are in a transition-stage from the maternal to the paternal. They retain survivals of the maternal stage; but appear only recently to have adopted the paternal. For, as if to emphasise the change and to show that the father has a direct relation to his child, the father is represented as a second mother and goes through the fiction of a mock child-birth, the so-called *couvade*. He lies in bed for forty days, after the birth of his child; and during this period he is fed as an invalid. The *Kukis* and ‘*Kacha*’ Nagas seem also to be more-or less in this transition-stage while the other Naga tribes appear to be in a more communal state, the exact nature of which, however, as well as its relation to the others, is not yet clear. And adjoining tribes practise polyandry, polygamy, and the Levirate.”

I should like to commend this sketch of the material awaiting the ethnologist in Assam to the notice of my friend Mr. Andrew Lang, who said to me in England the other day, “You have got nothing primitive in India.” One may fairly ask in reply what is it that entitles people to pose as primitive? If dispensing with clothes is the test we may point to the ‘naked’ tribe of Nagas described by Mr. Davis, who are nude and antique enough to satisfy anybody; to the Juangs of Keanjhar, whose women until quite recently wore nothing but a couple of bunches of leaves stuck under a girdle of beads; and to the curious survival mentioned by Mr. Clayton in Part III. of the Journal for last year, where he describes how at the temple of the goddess Bavaniyam-mal, in a village only sixteen miles from Madras, the worshippers, including Brahmans and the respectable agricultural caste of Vellalās strip themselves naked and circumambulate the shrine clad only in leaves of the sacred *neem* tree (*Azadirachta Indica*). If eccentric modes of marriage are the point to be looked to, we have in India a large and varied selection embracing both forms of polyandry, the fraternal and the promiscuous, the latter of which has given rise in Malabar and in the north of Ceylon to an elaborate law of property under which a man’s *proximus haeres* is his sister’s son. In Bengal an equally elaborate law has arisen from a system of ancestor worship, none the less primitive for the fact that its development, so far from being arrested, seems to have been stimulated by the fostering care of the Privy Council. Exogamy prevails everywhere in forms which are instructive for their variety and for the light which they throw upon

the probable origin of the practice. Totemism survives over large areas among strong and well organised tribes who show no signs of dying out and on occasion assert themselves with inconvenient vigour. As for taboo, which is usually considered to be one of the distinctive characters of primitive man, the whole country is alive with it; and the caste system itself may be plausibly described as nothing more than a highly specialised and complicated application of the same principle.

Before leaving this branch of the subject I should like to make mention of the very admirable ethnographic work that has been done in the series of Caste Hand-books for the Indian Army, by Major Vansittart, Captain Bingley and Captain Nicholls, and to express a hope not only that that work may be continued so as to give us a complete account of all the tribes and races represented in the Indian Army, but also that officers with a taste for such studies will pursue them on the lines laid down in 1885 at the Lahore Conference on Ethnography by Mr. Ibbatson, Mr. Nesfield and myself and will send us from time to time for publication in the *Journal* notes or monographs giving the results of their inquiries.

Having reviewed in a rather summary fashion the work done by our Society and by others during the year I shall now take a dip into the future and sketch what I think ought to be done and might be done, at no great cost and without putting any undue strain on existing machinery, to open up and render accessible to the world the great store of ethnographic facts which India still offers to those who are willing to seek for them. In doing this I shall take as my text the following letter (the substance of which was published in the *Times* some months ago) which my friend Sir George King informs me has been addressed by the Council of the British Association to the Secretary of State for India.

“At the meeting of the British Association for the Advancement of Science at Dover, attention was called to the special opportunity offered by the Census about to be taken in India for collecting valuable ethnographical data concerning the races of the country; and the Council of the Association having taken the matter into consideration, and being impressed by its scientific importance, have requested me, on their behalf, to bring to the notice of Her Majesty's Government the valuable scientific results which might be obtained by means of the Census.

“The results of the Census itself constitute, of course, by their very nature, an ethnographical document of great value; and my Council feel that, without overburdening the Officers of the Census or incurring any very large expense, that value might be increased to a

very remarkable degree if to the enumeration were added the collection of some easily ascertained ethnographical data. They are encouraged to make this suggestion by the reflection that the Census Commissioner is an accomplished ethnographer, well known by his publication on the Tribes and Castes of Bengal, the valuable results of which would be supplemented by the inquiries now proposed. They feel confident that with his aid, and under his direction, most important data may be obtained at a minimum of effort and cost. I may add that should the suggestion which my Council desire to make be carried out, a great step will have been taken towards establishing a uniform method of ethnographical observation in India—a matter of great scientific importance.

“ Stated briefly, what my Council desire to see carried out is as follows:—

“ 1. While collecting the ordinary information for the Census, to obtain such data of the physical and sociological characters of the jungle races—Bhils, Gonds, and other tribes of the central mountain districts—concerning which our information is at present very limited. These data would furnish the basis for a true estimation of the number and distribution of the tribes in question, and thus powerfully contribute to a sound classification of the races of India.

“ 2. In a similar manner to verify and add to the knowledge which we already possess of the Naga, Kuki, and other cognate races of the Assam and Burmese frontiers, and of the vagrant and criminal tribes—Haburas, Beriayas, Sansiyas, &c.—in North and Central India.

“ 3. To collect physical measurements, particularly of the Dravidian tribes, and of the Rajputs and Jats of Rajputana and the Eastern Panjab. Such data will be of the greatest service, in throwing light on the important and difficult problem of the origin of these tribes and their relation with the Yu-echi and other Scythian races.

“ 4. To obtain, so far as can be done without too great labour and expense, a series of photographs of typical individuals of the various races, and if it should be practicable, of views of archaic industries, &c. This, which might be accomplished by placing photographers at the service of the Census Officers, would be the commencement of an Ethnological Survey of India similar to and certainly no less important than the Archæological Survey of which the Government of India may so justly be proud.

“ My Council, in considering the above proposal, have been assisted by a Committee of gentlemen possessing special knowledge of the subject in question, and I am to add that this Committee will be pleased to place themselves at the disposal of Her Majesty's Government to

assist in the proposed investigation. If it should seem desirable to Her Majesty's Government, the Committee are prepared to put themselves into direct communication with the Officers of the Census, who, however, the Council have reason to believe, are fully capable of carrying out the details of the investigations proposed."

It will be seen that the proposals of the Association comprise

- (1) Ethnography, or the systematic description of the history, structure, traditions, and usages of tribes and castes.
- (2) Anthropometry, or physical measurements directed to the determination of types.
- (3) Photography of typical members of particular castes and tribes and if possible of archaic industries.

Now as regards the first of these it is clear that nothing of the nature of a comprehensive ethnographic survey can be undertaken as part of the Census procedure. At the same time we may be sure that on this, as on previous occasions, the Census will be the means of bringing to light and placing on record much valuable knowledge which would otherwise have been lost. An instance of what I mean is to be found in Mr. A. W. Davis's admirable monograph on the Nagas printed as part of the Assam Census Report of 1891. I saw Mr. Davis recently in Assam, and I am glad to be able to announce that he has consented to rewrite his monograph, embodying in it a quantity of fresh material which he has since collected, and to publish it as a paper in the *Journal* of this Society. To those who, like myself, have long been watching with regretful eyes the passing away of primitive usage with the spread of Hinduism and Islam it is pleasant to hear that this process of disintegration has not as yet gone very far in Assam. Mr. Davis assures me that the characteristic tribes of that Province, and particularly the Nagas, have parted with none of their distinctive customs, except that of cutting off their neighbour's heads, which the most enthusiastic ethnologist will hardly regret. In head-taking as practised by the Nagas there seems to have been no vestige of even savage chivalry. One head was as good as another, and a Naga who had surprised and mutilated a helpless child or woman considered that he had earned as good a title to manhood as if he had killed a full-grown warrior in fair fight. The existence of the practice has no doubt helped to keep meddlesome strangers out of the hilly tracts, while of the Province generally it may be said that the absence of railways, the prevalence of the deadly form of malaria known as *Kála Azár*, and the peculiar system of land tenures, under which there are no Rajas to create *brahmottar* and *pirottar* tenures for the benefit of their spiritual advisers, have combined to deter the Brahman and the Hadji

from exploiting what is, when once you have got there, a fertile and attractive country. An instance or two of the customs which have thus been kept alive may be of interest. We find in the *khels* or tribal septs of the Nagas a complete example of the exogamous group of blood relations, dwelling apart in its own territory and more or less at war with the rest of the world, which Mr. McLennan and others believed to be the earliest organised unit of human society. Hitherto the only surviving specimen of the exogamous sept as reconstructed in Mr. McLennan's famous essay has been the *gochi* of the Orissa Kandhs, which I came upon and described some years ago. But the Kandh *gochis* live at peace with one another, and to that extent have fallen away from their primitive condition; while the Naga *khel* fortifies its quarter of the villages with a stockade, a deep ditch full of bamboo calthrops, and a craftily devised ladder, and is for ever at war with its immediate neighbours. During the next few years I hope we may have more light thrown upon the internal structure of the Mongolian and semi-Mongolian tribes of our eastern borders, which has always been a bit of a puzzle. Meanwhile I venture the conjecture that further inquiry will show the *khel* or exogamous sept to be the original unit of their organisation, the tribal names by which we know them referring merely to locality or to some personal idiosyncrasy, such as an aversion to wearing clothes, which may have struck their neighbours as distinctive.

Another subject of which I hope we may hear more is that of the picturesque oaths and ordeals in vogue among some of these people for the purpose of settling disputes. The Nagas for example have the most intense belief in the binding virtue of an oath when properly taken. The litigant who appeals in this fashion to the judgment of the powers unseen, bares his right arm and shoulder, plants one foot firmly in a noose of rope laid on the ground, and swears aloud in an elaborate formula, settled by much preliminary haggling with the other side, in which he devotes not himself only, but all the members of his *khel* or blood-kin to an early death if his cause is not good. Even if he is prepared to take risks himself, the *khel* see to it that their lives are not rashly sworn away. Still there are loop holes of which an adroit person may avail himself. If the opponents have weakly agreed to a loosely worded oath, or if in the most formidable oath the swearer can manage to skip or slur over an important word, he may win his case triumphantly without provoking divine intervention. Mr. Davis, who is well known as a leading authority on the Naga languages, told me that he had himself on several occasions detected a man in the act of slipping or mispronouncing a word. When called upon to repeat it he at once withdrew his foot from the noose, declined the ordeal and threw up his

case. Classical parallels will occur to everyone, and I am also reminded of a dramatic form of oath which was used in my own court when I was Subdivisional Officer of Govindpur in Manbhum. A piece of a tiger's skin was tied on to the railing of the witness box, and every Santal who gave evidence took the skin in his hand and swore in his own language a terrible oath which began by apostrophising the moon and ended with an invitation to the tiger to devour him if he swore falsely. I am not prepared to vouch for the efficacy of the sanction, but every now and then it was apparent that a witness was anxious to shirk holding the skin or tried to let go of it before the final adjuration *kul jamáin* "May the tiger eat me" had been reached.

The Kuki and Garo ordeals are of a different and more material type. Kuki disputants walk side by side into water holding their heads well back until the water reaches their mouths. The man who first chokes for breath loses his case. The Garos, so Captain Howell tells me, dive together into a deep pool, catch hold of a rock at the bottom and hold on as long as they can. Judgment is entered in favour of the man who comes up last; and cases are known of sturdy litigants getting themselves drowned in the process but winning the suit for their kith and kin beyond all possibility of appeal. The practice is a fairly ancient one, and is not confined to the Garos. Three hundred years ago, in 1586, Master Ralph Fitch, the first Englishman who visited Burma, found it prevailing among the people whom he calls Pegues:

"The Pegues if they have a sute in the law which is so doubtfull that they cannot well determine it, put two long canes into the water where it is very deepe: and both the parties go into the water by the poles, and there sit men to judge, and they both do dive under the water, and he which remaineth longest under the water doth winne the sute."

To return from this digression to the proposals of the British Association. The illustrations I have cited show that now and again an excellent monograph may be got from some one who has special knowledge of the usages of a particular tribe, while scraps of more or less interesting information may be picked up by anyone with a taste for such things. But we want more than this. Before all vestiges of primitive custom are swept away by the action of proselytism on the one side and education on the other aided, as I have elsewhere pointed out,¹ by the recent extension of railways, we ought to have a systematic ethnographic survey of those parts of India which have not already been dealt with. The cost of such a survey would not be great; the

¹ Tribes and Castes of Bengal, Vol. I., p. xxix.

lines on which it should proceed have already been laid down and have been tested by experience in two large Provinces; and in undertaking it the Government of India would merely be doing what the United States and the Government of Netherlands India have done long ago, and what I understand is now about to be done by our own Colonial Office for the large populations of savage races which the expansion of the Empire has recently brought under its control. Of the scientific arguments for undertaking such a survey it is needless to speak; but looking at the question from the point of view of practical administration I may be permitted to point out that the task of governing a great congeries of races, tribes and castes among whom diversity is the rule and uniformity the exception, and who at present show no sign of evolving a compact social type, demands above all things for its successful accomplishment some systematic acquaintance with the vast body of custom with which Government is brought into contact at an infinite number of points. Where knowledge means influence, knowledge is power. A learned Professor who came to India some fourteen years ago to study philosophy and published, besides an exhaustive treatise on his own subject, a delightful account of his personal experiences, tells in the latter volume a story which illustrates this principle. He says that just before the Census of 1881 there arose in certain Indian districts an extraordinary rumour that the people of certain tribes were to be branded and deported, the men to carry hospital litters in Afghanistan and the women to pluck tea in Assam. Not unnaturally the tribes in question, numbering several hundred thousand, stampeded *en masse* into the jungles and declined to be censused on any terms. It happened that two of the local officials, in places many hundred miles apart, were interested in tribal customs and had influence enough with the tribes to induce their headmen to come in and talk things over. In each case whisky loosened their tongues and in each case they were led to ask why they were being counted. To this question one official, who was of a prosaic turn of mind, replied by asking "If you hide away and won't let me count you how am I to know how many of you will want rice in the next famine?" The other, a Colonel in the Central Provinces, who added to a sense of humour some acquaintance with Indian folk-lore, gravely told them, as one would tell children a fairy-tale, how, so many months before, Her Majesty the Maharāni and the Kaiser-i-Rūs (the Emperor of Russia) had been dining together. "Now when they had finished their curry and rice and were smoking their hookahs, they got quarrelling as to who had the most ryots. And he said he had, and she said she had, and they could not agree. So at last they made a very big bet (*pan lagāyā*), and ordered all their subjects to be counted. That

is why I want to count you now, and if you don't come in and let me do it the Queen will lose her bet and your faces will be blackened for ever." In either case the manœuvre was successful; the tribesmen returned to their villages and the Census went off without a hitch. But the discussion which ended in this happy result would have been altogether impossible but for the friendly relations which had been already established on the common ground of ethnography.

I have taken my illustration from Census but a dozen other branches of official business would have served my purpose equally well. Take famine for example. Different tribes and different castes feel the stress of scarcity in different ways; they require different treatment, and some of the most conspicuous failures of our famine administration in the past have been due to ignorance of the usages and traditions of the people with whom we had to deal.

Under the head of anthropometry the British Association wish that the opportunity of the Census may be taken "to collect physical measurements, particularly of the Dravidian tribes, and of the Rajputs and Jats of Rajputana and the Eastern Panjab. Such data will be of the greatest service, in throwing light on the important and difficult problem of the origin of these tribes and their relation with the Yuechi and other Scythian races."

As I am responsible for having introduced anthropometry into India under the guidance of the late Sir William Flower and Professor Paul Topinard of Paris, I should like to say a few words about the history of the method of observation now known by that uncomfortable name. The idea of applying instruments of precision to the measurement of the human body was familiar to the Egyptians and the Greeks, both of whom appear to have made extensive experiments with the object of arriving at a 'canon' or ideal type showing the proportions which various parts of the body should bear to the entire figure and to each other. Such canons were usually expressed either in terms of a particular member of which the rest were supposed to be multiples, or in fractional parts of the entire stature. Thus the Egyptian canon, according to Lepsius, is based on the length of the middle finger and this measure is supposed to be contained nineteen times in the full stature, three times in the head and neck, eight times in the arm, and so forth. The Greek canon on the other hand, as restored by Quételet, expresses the limbs and other dimensions in thousandth parts of the entire stature. Concerning this canon a curious story is told by Topinard, not without interest in its bearings upon the relations of Egyptian and Greek art. In 1866 the eminent French anthropologist, M. Paul Broca, was asked on behalf of M. Fock, who was engaged in

the attempt to reconstruct the Greek standard, to provide a skeleton corresponding in its proportions to certain measurements derived from an examination of the Belvedere Apollo. After some search Broca found in the Museum of the Anthropological Society at Paris a skeleton of the type required. It was that of a Soudanese negro named Abdullah, and from this Broca concluded that the famous statue of Apollo had been modelled on the Egyptian canon, which in his opinion had been derived by Egyptian sculptors from the study of the Nubian negroes whom they employed as models.

The Roman canon handed down in the treatise *De Architecturá* of Vitruvius was taken up and developed in the early days of the Renaissance by Leo Battista Alberti, himself, like Vitruvius, an architect, and a curious enquirer into the secret ways of nature and the human frame. Forty years later Leonardo da Vinci, in his *Trattato della pittura*, expressed the general opinion that the proportions of the body should be studied in children and adults of both sexes, and refuted the opinion of Vitruvius that the navel should be deemed the centre of the body. Following Leonardo's suggestions, Albrecht Dürer addressed himself to the task of working out the proportions of the body for different ages and sexes, for persons of different heights, and different types of figure. In his 'Four books on the proportions of the human figure,' published at Nürnberg in 1528, the year of his death, Dürer also discussed the difficult question of the so-called 'orientation' or adjustment of the head in an upright position, and he is believed by the authors of the *Crania ethnica* to have also anticipated Camper's invention of the facial angle. Jean Cousin, a French contemporary of Dürer's, took the nose as his unit of length, and represented the ideal head as measuring four noses, and the ideal stature as equivalent to eight heads or thirty-two noses. Cousin's system, slightly modified by Charles Blanc, holds its own at the present day as the *canon des ateliers* of French artists, preference, however, being given in ordinary parlance to the head rather than the nose as the unit of length.

All these canons, it will be observed, approach the subject purely from the artistic point of view, and, so far from taking account of the distinctive characters of particular races, incline to sink these in the attempt to frame a general canon of the proportions of the body which should hold good for the whole of mankind. Such an endeavour would be foreign to the purpose of anthropology, which fixes its attention on points of difference rather than of resemblance, and seeks by examination and analysis of such differences to form hypotheses concerning the genesis of the distinct race stocks now in existence. It would perhaps be fanciful to trace the germs of anthropometric research in the state-

ment of Herodotus that the skulls of the Persian soldiers slain at the battle of Plataea were thin, and those of the Egyptians were thick, or, to cite his explanation, that the former lived an indoor life and always wore hats, while the latter shaved their heads from infancy and exposed them to the sun without covering, as the earliest instance of the modern scientific doctrine of the influence of external conditions. But when Ctesias speaks of the small stature, black complexion, and snub noses of the inhabitants of India, we feel that the description is precise enough to enable us to identify them with the *Dasyus* and *Nishādas* of early Sanskrit literature, and we are almost tempted to wonder whether the Greek physician, who was doubtless acquainted with the canon of Polyoletus, may not have devised some accurate method of recording the racial characteristics of which he was so accurate an observer. Curiously enough the famous potter, Bernard de Palissy, was the first to throw out, in a humorous dialogue published in 1563, the idea of measuring the skull for purposes other than artistic. The passage quoted by Topinard is too quaint to be omitted here:—"Quoy voyant il me print envie de mesurer la teste d'un homme pour sçavoir directement ses mesures, et me semble que la sauterelle, la règle et le compas me seroient fort propres pour cest affaire, mais quoy qu'il en soit je n'y seen jamais trouver une mesure osseuse, parce que les folies qui estaient en ladite teste luy faisaient changer ses mesures."

Palissy however cannot be seriously put forward as the founder of scientific craniometry and that title perhaps most properly belongs to the Swedish naturalist Anders Retzius who in 1842, hit upon the device of expressing one of the chief characters of the skull by the relation of its maximum breadth to its maximum length, the latter being taken to be one thousand. In this way he distinguished two forms of skull—the *dolicho-cephalic*, in which the length exceeds the breadth by about one-fourth, and the *brachy-cephalic*, in which the length exceeds the breadth by a proportion varying from one-fifth to one-eighth. Thus according to Retzius the Swedes are *dolicho-cephalic* in the proportion 773 : 1000, and the Lapps *brachy-cephalic* in the proportion 865 : 1000. He also distinguished two types of face—the *orthognathic*, in which the jaws and teeth project not at all, or very little, beyond a line drawn from the forehead, and the *prognathic*, in which this projection is very marked. His classification of races was based upon these characteristics. In 1861 M. Paul Broca improved Retzius' system by expressing it in hundredths instead of thousandths, by introducing an intermediate group called *mesati-cephalic*, ranging from 77.7 to 80 per cent., and by giving the name of cephalic index to the relation between the two diameters. From time to time other characters have been added to the

scheme such as the proportions of the nose, the dimensions of the face and forehead, the protuberance of the cheek bones, the facial angle, the stature in relation to the weight, the colour of the eyes and hair, and the transverse section of the hair as observed with a microscope. These later developments have the authority of Broca and Topinard in France, of Virchow in Germany, and of Sir William Flower, Dr. Beddoe, Dr. Garson and Mr. Francis Galton in England.

This is the method which the British Association desire to see extended in India. Let us first take stock of what has already been done. For Bengal the North-West Provinces and the Panjab we have a fairly complete series of measurements taken under my supervision in 1883-88, while for the N.-W.P. alone a second large series was taken by Captain Drake-Brockman some years later. Certain measurements were also taken by Mr. E. J. Kitts on a slightly different system. For Southern India there are Mr. Thurston's and Mr. Holland's observations supplemented by a series of measurements taken for this Society under my directions by Babu Kumud Behari Samanta in 1892, and including the Cingalese, the so-called Moormen of Ceylon, and a number of Tamils from the East coast of Madras. Major Waddell's researches will I understand cover the whole of Assam, parts of Tibet and the region of the Eastern Himalaya and some of the Burmese races. For the extreme north-west of the Empire we have a small but very interesting set of measurements of Hunzas, Nagars and Kafirs which I had the good luck to get taken when Sir George Robertson brought these people to Calcutta some ten years ago. Savages as they were, their chiefs, who claimed to be descendants of Alexander, looked as if they had stepped down from a Greek vase of the best period and their measurements, especially that of the facial angle, seemed to confirm this impression.

In order to give full effect to the recommendations of the British Association we ought now to extend the measurements to the areas which have not yet been dealt with selecting in each case those castes and tribes typical of the area. We must at the same time endeavour to fill in any gaps that may be found in the existing series of measurements. There will, I believe, be no difficulty in settling for any given area what groups should be regarded as typical. For assistance in the work of measurement we may I trust look to the officers of the Indian Medical Service and the Royal Army Medical Corps who have always been ready to further the aims of scientific research in India.

The results of the large series of measurements taken in Northern India were set forth in a paper read at the meeting of the British Association at Newcastle in 1889 and published under the title 'The

Study of Ethnology in India' in the Journal of the Anthropological Institute, vol. xx, p. 235, in the following year. The conclusions then stated were accepted by Sir William Flower in his address as President of the British Association at Oxford; and were confirmed by the elaborate analyses of the figures subsequently published by Professor Topinard and Dr. Beddoe. They were, however, of a very general character and no attempt was made to press them into detail or to make them the basis of a minute classification of the various castes according to their supposed racial affinities. For this there were two reasons. In the first place some of the measurements, though introduced with the approval of Professors Flower and Topinard were admittedly experimental and it seemed desirable to await the judgment of experts before proceeding to generalise from the results; and secondly, it was doubtful whether a large series extending over a wider area might not introduce data pointing to quite different conclusions. A Provincial boundary is after all merely an arbitrary limit and it may well happen that the real clue to the origin of a tribe is only to be found by following it beyond the border of another Province. The great Kochh tribe is a case in point. Looking at them from the Bengal side one is inclined to say that on the whole Dravidian characteristics predominate over Mongolian, but in Assam the converse seems to hold good and it becomes obvious that a larger series and a wider view is necessary to settle the point. In connexion with this tribe my friend Major Prain has given me some interesting information which brings his researches in economic botany into relation with ethnology and supports the view that the Kochh are of Indo-Chinese rather than Dravidian origin. It seems that the northern districts of Bengal, Rungpur, Bogra, Dinajpur, Purnea,—the country north of the great Ganges and east of the Kosi— are marked by the cultivation of a considerable number of crops, particularly cold weather ones, which are peculiar to themselves or at any rate which do not extend further south or further west into either the lower or the upper Gangetic plain.

The commonest field Sāg in the whole of this area is what the people term Lapha, which is a Mallow (*Malva verticillata*). This is hardly met with anywhere else in India. A very common garden Sāg is the Lahi Sāg, a cabbage mustard (*Brassica amcifolia*) also grown largely in the Assam valley but not elsewhere grown in India.

A widely cultivated oil-seed is a *Chrysanthemum*, (*C. coronarium*) commonly cultivated in Assam and in Burma but hardly if at all cultivated elsewhere in India.

The plant which the people grow for its fibre and use almost exclusively for making fishing nets and ropes for dragging their boats

is what they term Kankhera which is the plant we know as Riha *Boehmeria nivea*—the China grass or Ramie). This is also grown in the whole of the Assam valley for the same purposes but is never grown, by the native inhabitants, in any other part of India. The *Boehmeria* and the *Chrysanthemum* are certainly, the *Brassica* is almost certainly of Chinese origin, while the employment of this Mallow as a vegetable is a Chinese usage. This incursion of botany into the domain of ethnology is, so far as I know, an entirely new departure and we may hope that Major Prain will find leisure to develop it.

One curious misapprehension I may take this opportunity of clearing up. In a sketch of the caste system which appeared in the *Revue des Deux Mondes* in 1894, and has since been published as a separate volume, M. Senart did me the honour of noticing at length some speculations of mine as to the origin of caste. In discussing the nasal index, the percentage of the breadth of the nose on its length, which Professors Flower and Topinard agree in regarding as the best test of race distinctions, I had pointed out that in certain parts of India, if a series of castes were arranged according to their nasal index, that order would be found to correspond substantially with the accepted order of social precedence. I went on to say "it is scarcely a paradox to lay down as a law of the caste organisation in Eastern India that a man's social status varies in inverse ratio to the width of his nose." On this M. Senart remarks:—"M. Risley aboutit à cette affirmation singulière, au moins d'aspect: 'C'est à peine une exagération d'établir comme une loi de l'organisation des castes dans l'Inde Orientale, que le rang social d'un homme varie en raison inverse de la largeur de son nez.' Qui ne resterait un peu sceptique"? Who indeed, if I had really made the *affirmation singulière* which M. Senart imputes to me? What I did say was something quite different. M. Senart's criticism in fact rests on a mistranslation. *L'Inde Orientale* means the whole of India—the East Indies as one might say; "Eastern India" means the eastern part of India to which, as appears clearly enough from the context, my remarks were limited. The expression is used in much the same sense by Mr. Montgomery Martin as the title of the well-known work—a sort of county history of part of Bengal—which he compiled in 1838 from the manuscript records of Dr. Francis Buchanan's survey, and by Sir Joseph Hooker in his introduction to the *Flora Indica*.

The British Association suggest in particular that anthropometric observations will throw light on the important and difficult problem of the origin of the Rajputs and Jats of Rajputana the Eastern Panjab and their relation with the Yu echi and other Scythian races. New

who were the Yu-echi and why should they be supposed to be connected with the Jats and Rajputs? To answer the question fully would require a volume but some brief answer is necessary to explain the proposals of the Association. According to Chinese authorities quoted by De Guignes,¹ shortly after the building of the Great Wall of China a people called Yue-chi were expelled about 200 B.C. by the Hiungnu or Huns from their original settlements on the East of Lake Lob and driven westward. On their march they separated into two bands, the smaller of which made its way into Tibet, while the larger body took possession of the country between the Jaxartes and Oxus, where they are shown by Klaproth as settled in 31 B.C. Klaproth² says they were of the same race as the Khiang, whom he describes as the aborigines of China. From Transoxiana the Yu-echi are said to have spread to Khwarism and Bokhara, and thence to the country on the Indus, where Tamerlane on his arrival in 1398 "recognised his old antagonists in their distant colony."³ Here they were in power for several centuries, and were known to the classical geographers as Getæ. Mr. Keane⁴ supposes that the Yu-echi were a people of Turki stock who entered India as conquerors, bringing with them a number of Bactrian peasants from the Kabul Valley. The Yu-echi, he thinks, are now represented by the Rajputs, while their followers were the ancestors of the Jats. The historical evidence does not seem very tangible, but if it is true that the Yu-echi were identical with the Khiang, and that their features were distinctive enough for Tamerlane, himself a Tartar, to recognise them, they probably were of Mongolian stock, and might, even now, retain some trace of Mongolian characteristics. If so, the method of measurement first used by Mr. Oldfield Thomas on a collection of Torres Straits skulls and introduced into India by me, with Sir William Flower's approval, for the purpose of dealing with the Mongoloid tribes of the Eastern Himalayas, may be trusted to bring out any trace of Mongolian blood that survives among the Jats. If no such trace is found, we may perhaps conclude that the theory of their Scythian origin rests on one of those verbal mystifications which have played so large a part in ethnology.

Lastly the Association ask for a series of photopraps of typical individuals of the various races, and, if it should be practicable, of views of archaic industries, etc. This sounds at first sight a very extensive project, and so it would be if carried out *de novo* in the manner

¹ Histoire des Huns. ii., 42.

² Klaproth, *Tableaux Historiques de l'Asie*, p. 13.

³ De Guignes *Académie des Inscriptions*, vol. xxv., p. 32.

⁴ *Man Past and Present*, p. 323.

suggested by the Association "by placing photographers at the service to the Census officers." But an enormous number of admirable photographs of the various races of India are already in existence, and if we did nothing more than select from among these typical pictures of the characteristic people of each Province, and reproduce them by one of the cheap modern processes we should preserve and place on record a mass of very valuable material. The end in view would be to produce a revised and expanded edition of a book famous in its day, Watson and Kaye's *People of India*, the pictures in which have now faded almost out of recognition. To supplement the report on the Census of each Province and State by a volume of permanent prints illustrating the people and their pursuits, would be a worthy memorial of the Census of 1901. And it is an object in which I believe we could count on the enthusiastic co-operation of both professional and amateur photographers throughout India. The ideal to be worked up to would be the splendid series of types of the Indian army taken at Captain Bingley's instance to illustrate the *Caste Handbooks* which I have already mentioned.

In conclusion I wish to say a few words about the striking explanation of the origin of Totemism which has been put forward by Mr. J. G. Frazer in some recent numbers of the *Fortnightly Review*. The subject is one of special interest to us in India because the Indian evidence on the subject seems not only to point to conclusions different from those arrived at by Mr. Frazer on the basis of the Australian data recently published by Messrs. Spencer and Gillen,¹ but to suggest a new canon for determining the historical value of ethnographic evidence in general.

"A totem" says Mr. Frazer "is a class of natural phenomena or material objects—most commonly a species of animals or plants—between which and himself the savage believes that a certain intimate relation exists. The exact nature of the relation is not easy to ascertain; various explanations of it have been suggested, but none has as yet won general acceptance. Whatever it may be, it generally leads the savage to abstain from killing or eating his totem, if his totem happens to be a species of animals or plants. Further, the group of persons who are knit to any particular totem by this mysterious tie commonly bear the name of the totem, believe themselves to be of one blood, and strictly refuse to sanction the marriage or cohabitation of members of

¹ *The Native Tribes of Central Australia*. By Baldwin Spencer, M.A., some time Fellow of Lincoln College, Oxford. Professor of Biology in the University of Melbourne; and J. F. Gillen, special Magistrate and Sub-Protector of the Aborigines, Alice Springs, South Australia.

the group with each other. This prohibition to marry within the group is now generally called by the name of Exogamy. Thus, Totemism has commonly been treated as a primitive system both of religion and of society. As a system of religion it embraces the mystic union of the savage with his totem; as a system of society it comprises the relations in which men and women of the same totem stand to each other and to the members of other totemic groups. And corresponding to these two sides of the system are two rough-and-ready tests or canons of Totemism: first, the rule that a man may not kill or eat his totem animal or plant; and second, the rule that he may not marry or cohabit with a woman of the same totem. Whether the two sides—the religious and the social—have always co-existed or are essentially independent, is a question which has been variously answered. Some writers—for example, Sir John Lubbock and Mr. Herbert Spencer—have held that Totemism began as a system of society only, and that the superstitious regard for the totem developed later, through a simple process of misunderstanding. Others, including J. F. M'Lennan and Robertson Smith, were of opinion that the religious reverence for the totem is original, and must, at least, have preceded the introduction of Exogamy."

The system of totems prevailing in Central Australia is so far paral-
lled to that known in India that it includes not only animals and plants but also a number of objects animate and inanimate. Thus while the Australians have "totems of the wind, the sun, the evening star, fire, water, cloud and so on" we find among our Dravidians in India the month of June, Wednesday in every week, the moon, the rainbow, the constellation Pleiades figuring as totems among a number of names which include pretty well the entire flora and fauna of the country where the tribe is settled. But while among the Australians the religious aspect of the totem is relatively more prominent than the social, in India the position is reversed; the social side of the system is very much alive while the religious side has fallen into disuse. It is the religious side on which Mr. Frazer lays stress, and he explains totemism as "primarily an organised and cooperative system of magic designed to secure for the members of the community, on the one hand, a plentiful supply of all the commodities of which they stand in need, and, on the other hand, immunity from all the perils and dangers to which man is exposed in his struggle with nature." In other words totemism is a primitive Commissariat and General Providence Department which at a later stage took over the business of regulating marriage. The evidence for this proposition is derived from the magical ceremonies called *Intichiuma* in which the members

of each totém solemnly mimic the animals and plants after which they are called, and eat a small portion of them with the object of ensuring a plentiful supply of the animals and plants of that species. Thus the men of the totém called after the Witchetty grub, a succulent caterpillar of some kind which is esteemed a great luxury, paint their bodies in imitation of the grub, crawl through a structure of boughs supposed to represent its chrysalis, chant a song inviting the insect to go and lay eggs, and butt each other in the stomach with the remark "You have eaten much food." The Emu men dress themselves up to resemble Emus and imitate the movements and aimless gazing about of the birds; the Kangaroo men and the men of the Hakea Flower totém go through similar mummeries.

Now in the first place the doubt occurs to one whether small¹ and moribund tribes, such as the Australians, can fairly be taken to be typical of primitive man. If they could, then man would be primitive still, and we should none of us have got to the point of vexing our souls about the origin of anything. The one distinctive feature of the Australian natives is their incapacity for any sort of progressive evolution. Surely an atrophied or it may be degenerate man of that type is not the sort of ancestor we want to discover; for it is difficult to see what we can learn from him. In Europe on the other hand primitive man, so far as we can judge from the traces he has left behind seems to have been an animal of an entirely different type. He had indeed his weaknesses—does not his *vates sacer*, Mr. Andrew Lang, impute to him a diet of oysters and foes—but he fought a good fight with his environment and as events show he came out a winner. It seems then that the quest of primitive man ready made and only waiting to be observed and analysed may be nothing better than a tempting short cut, leading to delusion, and that what we must look to is not so much primitive man but primitive usage regarded in its bearing on evolution.

It is from this point of view that I wish to put in a plea for the consideration of the Indian data. Primitive usages may, I would suggest, be divided, as Mr. Bagehot divided political institutions, into the effective and the ineffective, in other words, into those which affect evolution and those which do not. In the case of totemism you can distinguish these two pretty clearly. The magical ritual of the Arunta tribe obviously belongs to the ineffective class. No one outside the Arunta—and even among them one would think there must be augurs—

¹ Spencer and Gillon, p. 9. See also p. 114, where it is stated that the word "corroboree" for a tribal dance or orgie is borrowed from the whites. Can any one imagine a compact tribe, like the Santals, borrowing a foreign term for a tribal custom?

supposes that by performing the most elaborate parody of the demeanour of certain animals a man can really cause them to increase and multiply. In India, on the other hand, our totemistic people have got rid of all such antics, if indeed they ever practised them, and retain only the unquestionably effective factor in the system, the rule that a man may not marry a woman of his own totem. They have, it is true, also the rule that people may not eat, injure or make use of their totems, but this prohibition is relatively weak, and in some cases the totems are articles such as rice and salt which the members of the totem-kin could hardly do without.

Given then a state of things such as this, that tribes which are in no way moribund or degenerate, but on the contrary extremely full of life, retain the effective part of an archaic usage along with traces of its ineffective parts, may we not reasonably conclude that this effective part, which has stood the wear and tear of ages and contributed to the evolution of the tribe, furnishes the clue to the real origin of the usage itself? Assume this to be so and totemism at once wheels into line and takes the place, which it appears clearly to occupy in India, of a form of exogamy. The particular form presents no great difficulty. Primitive men are like children: they are constantly saying to themselves "Let's pretend," and a favourite and wide spread form of the game is to pretend to be animals. Only they play it in earnest, and very grim earnest it sometimes is, as one discovers when one has to administer a district where people believe that men can transform themselves into animals at will, or can be so transformed by the agency of witchcraft.

It will be asked, what then is the origin of exogamy? Here again I think the Indian evidence suggests an answer. Just as the special phenomenon of totemism may be explained by reference to the general law of exogamy, so exogamy itself may be traced to the still more general law of natural selection. Nor need we strain the law. We know that there is a tendency in individuals or groups of individuals to vary their habits; and that useful variations tend to be preserved and ultimately transmitted. Now suppose that in a primitive community, such as the Naga Khel or the Kandh Gochi, the men happened to vary in the direction of taking their wives from some other community, and that this infusion of fresh blood proved advantageous to the group. The original instinct would then be stimulated by heredity, and the element of sexual selection would in course of time come into play. For an exogamous groups would have a larger choice of women than an endogamous one, and would thus get finer women, who again, in the course of the primitive struggle for wives, would be appropriated by the

strongest and most warlike men. Exogamous groups thus strengthened would tend, as time went on, to 'eat up,' as the Zulus used to say, their endogamous neighbours or at any rate to deprive them of the pick of their marriageable girls; and the custom of exogamy would spread, partly by imitation, and partly by the extinction of the groups which did not practise it.

The fact that we cannot say how people came to vary in this particular fashion is not necessarily fatal to the hypothesis put forward. In the case of animals other than man, we do not call in question the doctrine of natural selection because we cannot divine the precise cause which gave rise to some beneficial variation. It is enough that variations do occur, and that the beneficial ones tend to be transmitted. If however an attempt must be made to pierce the veil which shuts off from our view the ages of pre-historic evolution, it does not seem unreasonable to suppose that here and there some half-accidental circumstance, such as the transmission of a physical defect or an hereditary disease, may have given primitive man a sort of warning and thus have induced the particular kind of variation which his circumstances required. Conquest again may have produced the same effect by bringing about a beneficial mixture of stocks, though it is a little difficult to see, as Mr. Lang pointed out long ago, why the possession of foreign women should have disinclined people to marry the women of their own group. At the same time it is conceivable that the impulse may have been set going by some tribe from which all its marriageable women had been raided, and which was thus driven by necessity to start raiding on its own account. I have elsewhere given instances, drawn from the Kandhs and Nagas, which lend themselves to this view; but I am not sure that we need travel beyond the tendency to accidental variation which appears in all living organisms and may be assumed to have shaped the evolution of primitive man.

I may now draw together the loose ends of thoughts which the proposal of the British Association have suggested. Speaking as President of this Society, and leaving out of consideration for the moment those questions of ways and means which have to be taken into account when one quits the domain of the ideal, I would formulate the requirements of ethnological research in India at the present time as follows:—

First, we want the ethnographic survey, which has been carried out in Bengal and the N.-W.P., to be extended on similar lines to the rest of India. This ought to be done within a reasonable time and cannot be postponed indefinitely.

Secondly, we want a record of the physical characters of typical

tribes and castes for those parts of India which are not covered by existing investigations.

Thirdly, we want a series of permanent photographs of the typical tribes and castes of each Province and Native State.

Fourthly, we want those who are engaged on similar inquiries in Europe to recognise that India is full of survivals, which are none the less instructive because the people among whom they occur are in no sense moribund and are ready enough to avail themselves of the material advantages which an alien civilization places within their reach. It was with this object that I referred just now to the bearing of Indian Ethnographic data on the question of the origin of totemism and exogamy, and that I drew attention in last year's address to some parallels between the domestic life of the Greeks and Romans and that of the people of India at the present day. It may be that I exaggerate the importance of things Indian—if so I am content to err in such good company as Sir Henry Maine, Herr Bachofen, and M. Fustel de Coulanges—but in any case the matter seems to deserve serious examination and cannot be brushed aside lightly with the remark that there is nothing primitive in India.

All members of the Society will hear with regret that his Grace Archbishop Goethals, who till lately was one of our Vice-Presidents, is about to leave India. The Archbishop's superb library, and his wide knowledge of all branches of literature bearing on India and the East, have always been at the disposal of students, and I am proud of being one of the many who have profited by his advice and guidance in matters of research.

There is no need for me to ask you to join with me in welcoming Sir John Woodburn as the next President. His sympathy with the ways of thought of the natives of this country, his knowledge of their traditions and usages and his familiarity with their village life—the real life of the people of India—furnish the best guarantee that under his auspices the lines of inquiry on which we are now proceeding will be developed and extended.

I will now ask His Excellency the Patron to address the Society on Ancient Buildings in India. Those of us who are acquainted with Lord Curzon's interesting study of the architecture of Kedleston House, the prototype of Government House, Calcutta, will know that His Excellency has made this fascinating subject peculiarly his own.

HIS EXCELLENCY BARON CURZON OF KEDLESTON, Patron of the Society, spoke on the subject of

ANCIENT MONUMENTS IN INDIA.

I hope that there is nothing inappropriate in my addressing to this Society a few observations upon the duty of Government in respect of ancient buildings in India. The Asiatic Society of Bengal still, I trust, even in these days when men are said to find no time for scholarship, and when independent study or research seems to have faded out of Indian fashion, retains that interest in archæology which is so often testified to in its earlier publications, and was promoted by so many of its most illustrious names. Surely here, if anywhere, in this house which enshrines the memorials, and has frequently listened to the wisdom of great scholars and renowned students, it is permissible to recall the recollection of the present generation to a subject that so deeply engaged the attention of your early pioneers, and that must still, even in a breathless age, appeal to the interest of every thoughtful man.

In the course of my recent tour, during which I visited some of the most famous sites and beautiful or historic buildings in India, I more than once remarked, in reply to Municipal addresses, that I regarded the conservation of ancient monuments as one of the primary obligations of Government. We have a duty to our forerunners, as well as to our contemporaries and to our descendants,—nay our duty to the two latter classes in itself demands the recognition of an obligation to the former, since we are the custodians for our own age of that which has been bequeathed to us by an earlier, and since posterity will rightly blame us if, owing to our neglect, they fail to reap the same advantages that we have been privileged to enjoy. Moreover, how can we expect at the hands of futurity any consideration for the productions of our own time—if indeed any are worthy of such—unless we have ourselves shown a like respect to the handiwork of our predecessors? This obligation, which I assert and accept on behalf of Government, is one of an even more binding character in India than in many European countries. There abundant private wealth is available for the acquisition or the conservation of that which is frequently private property. Corporations, societies, endowments, trusts provide a vast machinery that relieves the Government of a large portion of its obligation. The historic buildings, the magnificent temples, the inestimable works of art, are invested with a publicity that to some extent saves them from the risk of desecration or the encroachments of decay. Here all is different. India is covered with the visible records of vanished dynasties, of forgotten monarchs, of persecuted and sometimes dishonoured creeds.

These monuments are, for the most part, though there are notable exceptions, in British territory, and on soil belonging to Government. Many of them are in out of the way places, and are liable to the combined ravages of a tropical climate, an exuberant flora, and very often a local and ignorant population, who see only in an ancient building the means of inexpensively raising a modern one for their own convenience. All these circumstances explain the peculiar responsibility that rests upon Government in India. If there be any one who says to me that there is no duty devolving upon a Christian Government to preserve the monuments of a pagan art, or the sanctuaries of an alien faith, I cannot pause to argue with such a man. Art, and beauty, and the reverence that is owing to all that has evoked human genius, or has inspired human faith, are independent of creeds, and, in so far as they touch the sphere of religion, are embraced by the common religion of all mankind. Viewed from this standpoint, the rock temple of the Brahmans stands on precisely the same footing as the Buddhist Vihara, and the Mahomedan Musjid as the Christian Cathedral. There is no principle of artistic discrimination between the mausoleum of the despot and the sepulchre of the saint. What is beautiful, what is historic, what tears the mask off the face of the past, and helps us to read its riddles, and to look it in the eyes—these, and not the dogmas of a combative theology, are the principal criteria to which we must look. Much of ancient history, even in an age of great discoveries, still remains mere guess work. It is only slowly being pieced together by the efforts of scholars and by the outcome of research. But the clues are lying everywhere at our hand, in buried cities, in undeciphered inscriptions, in casual coins, in crumbling pillars, and pencilled slabs of stone. They supply the data by which we may reconstruct the annals of the past, and recall to life the morality, the literature, the politics, the art of a perished age.

Compared with the antiquity of Assyrian or Egyptian, or even of early European monuments, the age of the majority of Indian monuments is not great. I speak subject to correction, but my impression is that the oldest sculptured monument in India is the Sanchi Tope, the great railing of which cannot possibly be placed before the middle of the 3rd century before Christ, although the tope itself may be earlier. At that time the palaces of Chaldœa and Nineveh, the Pyramids and the rock tombs of Egypt, were already thousands of years old. We have no building in India as old as the Parthenon at Athens; the large majority are young compared with the Coliseum at Rome. All the Norman and the majority of the Gothic Cathedrals of England and of Western Europe were already erected before the great era of Moslem architecture in India had begun. The Kutub Minar at Delhi, which is the finest

early Mahomedan structure in this country, was built within a century of Westminster Hall in London, which we are far from regarding as an ancient monument. As for the later glories of Arabian architecture at Delhi, at Agra, and at Lahore, the Colleges of Oxford and Cambridge, which we regard in England as the last product of a dying architectural epoch, were already grey when they sprang, white and spotless, from the hands of the masons of Akbar and Shah Jehan; while the Taj Mahal was only one generation older than Wren's Renaissance fabric of modern St. Paul's.

There is another remarkable feature of the majority of Indian antiquities—of those at any rate that belong to the Mussulman epoch—that they do not represent an indigenous genius or an Indian style. They are exotics, imported into this country in the train of conquerors, who had learnt their architectural lessons in Persia, in Central Asia, in Arabia, in Afghanistan. More than a thousand years earlier a foreign influence had exercised a scarcely less marked, though more transient, influence upon certain forms of Indian architecture. I allude to the Greek types which were derived from the Græco-Bactrian kingdoms, that were founded upon the remains of Alexander's conquests, and which in the centuries immediately preceding the Christian era profoundly affected the art and sculpture of North-West India, and the Punjab. Indian sculptures or Indian buildings, however, because they reflect a foreign influence, or betray a foreign origin, are not the less, but perhaps the more interesting to ourselves, who were borne to India upon the crest of a later but similar wave, and who may find in their non-Indian characteristics a reminiscence of forms which we already know in Europe, and of a process of assimilation with which our own archaeological history has rendered us familiar. Indeed a race like our own, who are themselves foreigners, are in a sense better fitted to guard, with a dispassionate and impartial zeal, the relics of different ages, and of sometimes antagonistic beliefs, than might be the descendants of the warring races or the votaries of the rival creeds. To us the relics of Hindu, and Mahomedan, of Buddhist, Brahmin, and Jain are, from the antiquarian, the historical, and the artistic point of view, equally interesting and equally sacred. One does not excite a more vivid, and the other a weaker emotion. Each represents the glories or the faith of a branch of the human family. Each fills a chapter in Indian history. Each is a part of the heritage which Providence has committed to the custody of the ruling power.

If, however, the majority of the structural monuments of India, the topes, and temples, the palaces, and fortresses, and tombs be of no exceeding antiquity in the chronology of architecture, and even if the

greater number of those at any rate which are well known and visited, are not indigenous in origin, it remains true, on the other hand, that it is in the exploration and study of purely Indian remains, in the probing of archaic mounds, in the excavation of old Indian cities, and in the copying and reading of ancient inscriptions, that a good deal of the exploratory work of the archæologist in India will in future lie. The later pages of Indian history are known to us, and can be read by all. But a curtain of dark and romantic mystery hangs over the earlier chapters, of which we are only slowly beginning to lift the corners. This also is not less an obligation of Government. Epigraphy should not be set behind research any more than research should be set behind conservation. All are ordered parts of any scientific scheme of antiquarian work. I am not one of those who think that Government can afford to patronise the one and ignore the other. It is, in my judgment, equally our duty to dig and discover, to classify, reproduce, and describe, to copy and decipher, and to cherish and conserve. Of restoration I cannot, on the present occasion, undertake to speak, since the principles of legitimate and artistic restoration require a more detailed analysis than I have time to bestow upon them this evening. But it will be seen from what I have said that my view of the obligations of Government is not grudging, and that my estimate of the work to be done is ample.

If then the question be asked how has the British Government hitherto discharged, and how is it now discharging its task, what is the answer that must be returned? I may say in preface that were the answer unfavourable—and I will presently examine that point—we should merely be forging a fresh link in an unbroken historic chain. Every or nearly every successive religion that has permeated or overswept this country has vindicated its own fervour at the expense of the rival whom it had dethroned. When the Brahmaus went to Elhora, they hacked away the features of all the seated Buddhas in the rock-chapels and halls. When Kutub-ud-din commenced, and Altamsh continued, the majestic mosque that flanks the Kutub Minar, it was with the spoil of Hindu temples that they reared the fabric, carefully defacing or besmearing the sculptured Jain images, as they consecrated them to their novel purpose. What part of India did not bear witness to the ruthless vandalism of the great iconoclast Aurungzeb? When we admire his great mosque with its tapering minarets, which are the chief feature of the river front at Benares, how many of us remember that he tore down the holy Hindu temple of Vishveshwar to furnish the material and to supply the site? Nadir Shah during his short Indian inroad effected a greater spoliation that has probably ever been

achieved in so brief a space of time. When the Maratha conquerors overran Northern India, they pitilessly mutilated and wantonly destroyed. When Ranjit Singh built the Golden Temple at Umritsar, he ostentatiously rifled Mahomedan buildings and mosques. Nay, dynasties did not spare their own members, nor religions their own shrines. If a capital or fort or sanctuary was not completed in the life-time of the builder, there was small chance of its being finished, there was a very fair chance of its being despoiled, by his successor and heir. The environs of Delhi are a wilderness of deserted cities and devastated tombs. Each fresh conqueror, Hindu or Moghul or Pathan, marched, so to speak, to his own immortality over his predecessor's grave. The great Akbar in a more peaceful age first removed the seat of Government from Delhi to Agra, and then built Fatehpur Sikri as a new capital, only to be abandoned by his successor. Jehangir alternated between Delhi and Agra, but preferred Lahore to either. Shah Jehan beautified Agra, and then contemplated a final return to Delhi. Aurengzeb marched away to the south, and founded still another capital, and was himself buried in territories that now belong to Hyderabad. These successive changes, while they may have reflected little more than a despot's caprice, were yet inimical both to the completion and to the continuous existence of architectural fabrics. The British Government are fortunately exempt from any such promptings, either of religious fanaticism, of restless vanity, or of dynastic and personal pride. But in proportion as they have been unassailed by such temptations, so is their responsibility the greater for inaugurating a new era and for displaying that tolerant and enlightened respect to the treasures of all, which is one of the main lessons that the returning West has been able to teach to the East.

In the domain of archæology as elsewhere, the original example of duty has been set to the Government of India by individual effort and by private enthusiasm; and only by slow degrees has Government, which is at all times and seasons a tardy learner, warmed to its task. The early archæological researches, conducted by the founders and pioneers of this Society, by Jones, Colebrooke, Wilson, and Prinsep, and by many another *clarum et venerabile nomen*, were in the main literary in character. They consisted in the reconstruction of alphabets, the translation of manuscripts, and the decipherment of inscriptions. Sanscrit scholarship was the academic cult of the hour. How these men laboured is illustrated by the fact that Prinsep and Kittoe both died of overwork at the age of 40. Then followed an era of research in buildings and monuments; the pen was supplemented by the spade; and, in succession, descriptions, drawings, paintings, engravings, and in later days

photographs and casts gradually revealed to European eyes the precious contents of the unrifled quarries of Hindustan. In this generation of explorers and writers, special honour must be paid to two names, to James Fergusson, whose earliest work was published in 1845, and who was the first to place the examination of Indian architecture upon a scholarly basis, and to General Sir A. Cunningham, who only a few years later was engaged in the first scientific excavation of the Bhilsa topes. These and other toilers in the same field laboured with a diligence beyond praise; but the work was too great for individual exertion, and much of it remained desultory, fragmentary, and incomplete.

Meanwhile the Government of India was concerned with laying the foundations and extending the borders of a new Empire, and thought little of the relics of old ones. From time to time a Governor-General, in an access of exceptional enlightenment or generosity, spared a little money for the fitful repair of ancient monuments. Lord Minto appointed a Committee to conduct repairs at the Taj. Lord Hastings ordered works at Fatehpur Sikri and Sikandra. Lord Amherst attempted some restoration of the Kutub Minar. Lord Hardinge persuaded the Court of Directors to sanction arrangements for the examination, delineation, and record of some of the chief Indian antiquities. But these spasmodic efforts resulted in little more than the collection of a few drawings, and the execution of a few local and perfunctory repairs. How little the leaven had permeated the lump, and how strongly the barbarian still dominated the æsthetic in the official mind, may be shown by incidents that from time to time occurred.

In the days of Lord William Bentinck the Taj was on the point of being destroyed for the value of its marbles. The same Governor-General sold by auction the marble bath in Shah Jehan's Palace at Agra, which had been torn up by Lord Hastings for a gift to George IV., but had somehow never been despatched. In the same régime a proposal was made to lease the gardens at Sikandra to the Executive Engineer at Agra for the purposes of speculative cultivation. In 1857, after the Mutiny, it was solemnly proposed to raze to the ground the Jumma Musjid at Delhi, the noblest ceremonial mosque in the world, and it was only spared at the instance of Sir John Lawrence. As late as 1868 the destruction of the great gateways of the Sanchi Tope was successfully prevented by the same statesman. I have read of a great Mahomedan pillar, over 600 years old, which was demolished at Aligarh, to make room for certain municipal improvements and for the erection of some *bunias'* shops, which, when built, were never let. Some of the sculptured columns of the exquisite Hindu-Mussulman mosque at Ajmere were pulled down by a zealous officer to construct a triumphal

arch under which the Viceroy of the day was to pass. James Fergusson's books sound one unending note of passionate protest against the barrack-builder, and the military engineer. I must confess that I think these individuals have been, and within the more restricted scope now left to them, still are inveterate sinners. Climb the hill top at Gwalior and see the barracks of the British soldiers, and the relics, not yet entirely obliterated, of his occupation of the Palace in the Fort. Read in the Delhi guide-books of the horrors that have been perpetrated in the interests of regimental barracks and messes and canteens in the fairy-like pavilions and courts and gardens of Shah Jehan. It is not yet 30 years since the Government of India were invited by a number of army doctors to cut off the battlements of the Fort at Delhi, in order to improve the health of the troops, and only desisted from doing so when a rival band of medical doctrinaires appeared upon the scene to urge the retention of the very same battlements, in order to prevent malarial fever from creeping in. At an earlier date when picnic-parties were held in the garden of the Taj, it was not an uncommon thing for the revellers to arm themselves with hammer and chisel, with which they wiled away the afternoon by chipping out fragments of agate and carnelian from the cenotaphs of the Emperor and his lamented Queen. Indeed when I was at Agra the other day, I found that the marble tomb of Shah Jehan in the lower vault, beneath which his body actually lies, was still destitute of much of its original inlay, of which I ordered the restoration.

That the era of vandalism is not yet completely at an end is evident from recent experiences, among which I may include my own. When Fergusson wrote his book, the Diwan-i-Am, or Public Hall of Audience, in the Palace at Delhi was a military arsenal, the outer colonnades of which had been built up with brick arches lightened by English windows. All this was afterwards removed. But when the Prince of Wales came to India in 1876, and held a Durbar in this building, the opportunity was too good to be lost; and a fresh coat of whitewash was plentifully bespattered over the red sandstone pillars and plinths of the Durbar-hall of Aurungzeb. This too I hope to get removed. When His Royal Highness was at Agra, and the various pavilions of Shah Jehan's palace were connected together for the purposes of an evening party and ball, local talent was called in to reproduce the faded paintings on marble and plaster of the Moghul artists two and a half centuries before. The result of their labours is still an eyesore and a regret. When I was at Lahore in April last, I found the exquisite little Moti Musjid, or Pearl Mosque, in the Fort, which was erected by Jehangir exactly three hundred years ago, still used for the profane

purpose to which it had been converted by Rangit Singh, *viz.*, as a Government Treasury. The arches were built up with brick-work, and below the marble floor had been excavated as a cellar for the reception of iron-bound chests of rupees. I pleaded for the restoration to its original state of this beautiful little building, which I suppose not one visitor in a hundred to Lahore has ever seen. Ranjit Singh cared nothing for the taste or the trophies of his Mahomedan predecessors, and half a century of British military occupation, with its universal paintpot, and the exigencies of the Public Works Engineer, has assisted the melancholy decline. Fortunately in recent years something has been done to rescue the main buildings of the Moghul Palace from these two insatiable enemies. At Ahmedabad I found the mosque of Sidi Sayid, the pierced stone lattice-work of whose demi-lune windows is one of the glories of India, used as a tehsildar's kutcherry, and disfigured with plaster partitions, and the omnivorous whitewash. I hope to effect the reconversion of this building. After the conquest of Upper Burma in 1885, the Palace of the Kings at Mandalay which, although built for the most part of wood, is yet a noble specimen of Burmese art, was converted by our conquering battalions into a Club House, a Government Office, and a Church. By degrees I am engaged in removing these superfluous denizens, with the idea of preserving the building as the monument, not of a dynasty that has vanished never to return, but of an art that, subject to the vicissitudes of fire, earthquake, and decay, is capable of being a joy for ever. There are other sites and fabrics in India upon which I also have my eye, which I shall visit, if possible, during my time, and which I shall hope to rescue from a kindred or a worse fate.

These are the gloomy or regrettable features of the picture. On the other hand, there has been, during the last 40 years, some sort of sustained effort on the part of Government to recognize its responsibilities and to purge itself of a well-merited reproach. This attempt has been accompanied, and sometimes delayed, by disputes as to the rival claims of research and of conservation, and by discussion over the legitimate spheres of action of the Central and the Local Governments. There have been periods of supineness as well as of activity. There have been moments when it has been argued that the State had exhausted its duty or that it possessed no duty at all. There have been persons who thought that when all the chief monuments were indexed and classified, we might sit down with folded hands and allow them slowly and gracefully to crumble into ruin. There have been others who argued that railways and irrigation did not leave even a modest half a lakh of rupees per annum for the requisite establishment to supervise

the most glorious galaxy of monuments in the world. Nevertheless, with these interruptions and exceptions, which I hope may never again recur, the progress has been positive, and on the whole, continuous. It was Lord Canning who first invested archæological work in this country with permanent Government patronage by constituting in 1860, the Archæological Survey of Northern India and by appointing General Cunningham in 1862 to be Archæological Surveyor to Government. From that period date the publications of the Archæological Survey of India, which have at times assumed different forms, and which represent varying degrees of scholarship and merit, but which constitute, on the whole, a noble mine of information, in which the student has but to delve in order to discover an abundant spoil. For over 20 years General Cunningham continued his labours, of which these publications are the memorial. Meanwhile orders were issued for the registration and preservation of historical monuments throughout India, local surveys were started in some of the subordinate Governments, the Bombay Survey being placed in the capable hands of Mr. Burgess, who was a worthy follower in the footsteps of Cunningham, and who ultimately succeeded him as Director-General of the Archæological Survey. Some of the Native States followed the example thus set to them, and either applied for the services of the Government archæologists, or established small departments of their own.

In the provinces much depended upon the individual tastes or proclivities of the Governor or Lieutenant-Governor, just as at head-quarters the strength of the impetus varied with the attitude of successive Viceroys. Lord Northbrook, who was always a generous patron of the arts, issued orders in 1873 as to the duties of Local Governments; and in his Viceroyalty, Sir John Strachey was the first Lieutenant-Governor to undertake a really noble work of renovation and repair at Agra—a service which is fitly commemorated by a marble slab in the Palace of Shah Jehan. The poetic and imaginative temperament of Lord Lytton could not be deaf to a similar appeal. Holding that no claim upon the initiative and resources of the Supreme Government was more essentially Imperial than the preservation of national antiquities, he contributed in 1879 a sum of 3½ lakhs to the restoration of buildings in the North-Western Provinces; and proposed the appointment of a special officer, to be entitled the Curator of Ancient Monuments, which, while it did not receive sanction in his time, was left to be carried out by his successor, Lord Ripon. During the three years that Major Cole held this post, from 1880 to 1883, much excellent work in respect both of reports and classification was done; and large sums of money were given by the Government of India, *inter alia*, for repairs in the Gwalior Fort and at

Sanchi Tope. But at the end of this time succeeded a period of some reaction, in which it appeared to be thought that the task of the Central Government, in the preparation of surveys and lists, was drawing to a close, and that Local Governments might, in future, be safely entrusted with the more modest, but, I may add, not less critical, duty of conservation. More recently, under Lord Elgin's auspices, the archæological work of Government has been placed upon a more definite basis. The entire country has been divided into a number of circles, each with a surveyor of its own, and while the establishment is regarded as an Imperial charge, the work is placed under local control and receives such financial backing as the resources of the Local Governments or the sympathies of individual Governors may be able to give it. In the North-West Provinces, where I was recently touring, I found Sir A. MacDonnell worthily sustaining, in point of generous and discriminating sympathy, the traditions that were created by Sir John Strachey.

For my part I feel far from clear that Government might not do a good deal more than it is now doing, or than it has hitherto consented to do. I certainly cannot look forward to a time at which either the obligations of the State will have become exhausted, or at which archæological research and conservation in this country can dispense with Government direction and control. I see fruitful fields of labour still unexplored, bad blunders still to be corrected, gaping omissions to be supplied, plentiful opportunities for patient renovation and scholarly research. In my opinion, the tax-payers of this country are in the last degree unlikely to resent a somewhat higher expenditure—and, after all, a few thousand rupees go a long way in archæological work, and the total outlay is exceedingly small—upon objects in which I believe them to be as keenly interested as we are ourselves. I hope to assert more definitely during my time the Imperial responsibility of Government in respect of Indian antiquities, to inaugurate or to persuade a more liberal attitude on the part of those with whom it rests to provide the means, and to be a faithful guardian of the priceless treasure-house of art and learning that has, for a few years at any rate, been committed to my charge.

PROCEEDINGS
OF THE
ASIATIC SOCIETY OF BENGAL,
FOR MARCH, 1900.

The Monthly General Meeting of the Society was held on Wednesday, the 7th March, 1900, at 9-15 P.M.

H.H. SIR JOHN WOODBURN, M.A., K.C.S.I., President, in the Chair.

The following members were present:—

Mr. J. Bathgate, Rai Bahadur Chuni Lal Bose, Dr. T. Bloch, Dr. A. Krafft von Delmensingen, Mr. W. Dods, Mr. W. K. Dods, Mr. T. H. Holland, Mr. Chas. Michie, Babu Panchanan Mukerji, Mr. L. de Nicéville, Mahamahapadhyaya Hara Prasad Shastri, Mr. E. Thornton.

Visitors:—Capt. Allanson, R.A., Rai Sohan Lal, Mr. A. Shrager, Mr. A. E. Westerhout.

The minutes of the last Monthly General Meeting and of the Annual Meeting held on the 3rd January and 7th February, 1900, at 9 P.M., respectively, were read and confirmed.

Ninety-one presentations were announced.

Rai Bahadur Chuni Lal Bose, M.B.; Mr. Chas. Michie; Mr. David Robb Wallace; and Dr. A. Krafft von Delmensingen, were elected Ordinary Members of the Society in accordance with Rule 7 at the Council Meeting held on 19th January, 1900.

Mr. A. U. Fanshawe, C.S.I., I.C.S.; Mr. W. S. Meyer, I.C.S., and Pandit Yogesha Chandra Shastree, were balloted for and elected Ordinary Members.

Mr. J. Kennedy, Mr. F. H. Harding and Mr. B. De, have expressed a wish to withdraw from the Society.

The President announced that in accordance with Rule 38 of the Society's Rules, the names of the following gentlemen had been posted

up as defaulting members since the last Monthly General Meeting, and will be removed from the Member List and the fact published in the Proceedings.

Babu Krishna Gopal Bhakta.
 Rai Khirod Chandra Chowdhuri.
 Babu Gopal Ballabh Das.
 „ Mahendra Nath Ray.
 „ Suresh Chundra Samajpati.

The President also announced :—

(1) That the Council had offered their cordial thanks to Mr. E. Thornton for his report on the Survey of the Society's premises which was ordered to be communicated to the General Meeting.

(2) That the Council had elected Mr. L. de Nicéville as Natural History Secretary in the place of Mr. F. Finn, resigned.

Report on the Society's Premises.—By E. THORNTON, A.R.I.B.A.

The structure shows signs of having suffered during the earthquake of 1897, but certain repairs were then undertaken which have rendered the building generally secure for the present. The chief structural defects noticeable at present are the bad state of the pillars supporting the roof over the staircase, and the bad state of certain beams and burgahs. I have had the whole of the beams and burgahs examined by competent mistries and have ascertained the extent of the repairs necessary. There need be no fear of immediate danger from either of the above defects, except in the event of earthquake. The cost of putting the whole premises in reasonable structural and decorative repairs, would be according to my estimate about Rs. 9,000. This would include :—

1. Securing the staircase columns with iron bands and tie rods.
2. Replacing defective beams with rolled steel joists and renewing burgahs.
3. Repairing arches where defective.
4. Repairing roofs where necessary.
5. Renewing and repairing woodwork of doors and windows.
6. Recolour-washing inside and outside throughout both main buildings and offices and making good plaster.
7. Repainting and regilding.
8. Making good broken glass and other petty repairs.

In conclusion, I would advise the Committee to set aside something yearly towards a "Repair Fund" so that at the end of four or five

years a round sum would be in hand to meet the cost of repainting and colour-washing, and any structural repairs that might become necessary. Rs. 1,000 yearly would, in my opinion, fully cover any ordinary re-decoration and repairs, and would, I think, leave over a substantial balance at the end of every four or five years to meet any unforeseen expenditure.

Mahamahopadhyaya Hara Prasad Shastri exhibited and described a Turquoise Ganeça, and made the following remarks on it.

On the 6th February Mr. Hill, Librarian to the Imperial Library wrote to me a letter, enclosing a drawing from a carved piece of Turquoise belonging to the Under-Secretary, Revenue and Agricultural Department, and expressing a hope that I might furnish him with an explanation of the details.

On examination the drawing proved to be that of Ganeça with the following curious features: (1) he has four faces; he rides on a lion; he has a Çakti on his left in an amorous position; his legs are short and thick set.

The figure of Ganeça, as we ordinarily find it, has one face, the head of an elephant; with a proboscis, a pot-belly, with two, sometimes with four hands, painted bright red with one tusk, riding on a rat. In the grand image of Durgā and her family worshipped in October we find a plantain tree placed by the side of Ganeça covered over with a bright red-bordered cloth, ordinarily called *बल्लारी* (the wife of Ganeça represented by a plantain tree); but really it is not intended as Ganeça's mate. It is in Sanskrit called *नवपत्रिका*, nine leaves, the real essence of Durgā.

The drawing differs so greatly from our ordinary idea of Ganeça that I began searching on all sides for an explanation of the distinguishing features, and this was furnished from the Commentary by Rāghava Bhatta on *Çaradātilaka*, a well-known Tāntrika work, in which 50 names of Ganeça and 50 names of his Çaktis are given. Most of these names are names taken from his attributes, and two of these names are important for our purposes, namely, *नवपादन* and *सप्तमुख*. The first epithet means that he rides sometimes on an infuriated animal and the second says he often has six heads. Now the word *नव* may mean any infuriated animal and in the drawing the lion with its mouth gaping wide open and with tail raised high up seems to be in fury. This furnished explanation on one of the points of detail. The other epithet "with six heads" explains the fact that in the drawing, Ganeça has only four; because six heads all round, will show

only four when drawn on a plain surface. In Benares, I am told, the great Ganeṣa Dhunḍhirāja has replaced a six-headed figure of the same deity.

After giving the fifty names of the Çaktis of Ganeṣa the commentary proceeds to say that all the Çaktis have some common attributes, two of which are to the point in this connection here, namely, that the Çaktis sit, on the lap of Ganeṣa and that they are furnished with wreathes of red flowers; now, here the Çakti is on the left lap of Ganeṣa the appropriate seat for a wife. One of Ganeṣa's thick set feet is outside her figure. The flower wreath is very prominent on her chest. She has a separate lotus seat. This furnishes a complete explanation of the details as given in the drawing.

But on an examination of the original Turquoise figure Ganeṣa seemed to possess eight hands four on each side. In Bengal Ganeṣa has four and sometimes even two hands. But in Nepal the number of hands depends on the imagination of the Carver who may attribute any number of attributes to his deity. I have seen Ganeṣa with 18 hands and other deities, too, with any even number of hands.

The short and thick set legs pointed out to me that the Turquoise figure was made in Nepal for in Northern India the limbs have a human proportion and in South India the most prominent feature of Ganeṣa is his belly. In fact, when I stood in front of a huge figure of Ganeṣa at the outer entrance of the great Temple of Viṣṇu Kañci my guide, naively, told me "what you do not seem to recognise this god, he is our great Belly God, Ganeṣa."

Mr. Maconochie, the Under-Secretary to the Revenue and Agricultural Department has subsequently assured me that his vendor got the figure from Nepal. He deserves the thanks of the Society for lending his valuable stone for exhibition to-night.

The following paper was read:—

On the manuscript of a work on the biography of one of the Pāla-Kings of Muḡādh, Rām Pāl.—By MAHAMAHOPADHYAYA HARA PRASAD SHASTRI, M.A.

(Abstract.)

RAMACARITA BY SANDHYĀKARA NANDĪ, ELEVENTH CENTURY.

Rāmacarita may be said to be one of the most interesting finds. It is the first really historical manuscript found in Eastern India. It treats of the life and times of Rāmapāla Deva one of the Pāla Kings of Gauḍ. Rāmapāla is known from inscriptions to have been the sou

of Vighraha Pāla III. He was the youngest and ablest of three brothers Mahipāla, Ārapāla and himself. The manuscript treats of Rāmapāla's wars with the rebellious Kaivartta King of Vārendra named Bhima Divoka. In one sense the manuscript is a very difficult work as it is written throughout in double-entendre. Explained one way every verse gives some portion of the Story of Rāma of the Rāmāyana. Explained another way the same verse gives the history of Rāmapāla Deva. Had it not been accompanied with a Commentary it would have been almost impossible to understand the work. Unfortunately, however, the Commentary breaks off almost at the beginning of the second Canto and I purpose in this abstract to give the history of Rāmapāla's reign as far as it can be gleaned from the portion of the work covered by the commentary. The manuscript has been obtained from Nepal. It now belongs to the Government collection.

The manuscript of the Text is written in old Newari but the Commentary is written in old Bengali,—much older than the character as revealed in the Bengali manuscripts written in 1198 and described in Professor Bendall's catalogue of manuscripts in Cambridge. The Author of the Text is Sandhyākara Nandi, the son of Prajāpati Nandi the Minister of Peace and War of Rāmapāla Deva. The Author lived at the capital of the Vārendra country, conquered by Rāmapāla, namely, in the city of Pauṇḍravardhana, which Dr. Blochmann identified with Paṇḍua; but the identification has not yet been accepted as final. So the Author had very great opportunities of knowing what he writes about. The name of the Author of the Commentary is not given.

We come to know for the first time from this MS. that the Pāla Kings considered themselves as descendants of the Ocean God—a fact which shows that they came from the sea-shore. We have Bengali works which state that Dharmapāla and his descendants had relatives in the districts of Midnapore and Howrah.

Vighrapāla, the father of Rāmapāla, made a successful war against Kaṛṇa King of Dāhala who belonged to the Chedi race and had his Rāj in what is now known as the Rewa territories. Kaṛṇa was worsted in war and had to make peace by giving his daughter in marriage to his conqueror Vighraha who, thereupon, reinstated him. Now Kaṛṇa of Dāhal is known to us from inscriptions. He is said to have established a new capital for his Rāj in a more inaccessible part of the Vindhya Mountains, owing it appears to the constant trouble he had from his powerful neighbours, the Pālas.

Mahipāla, the elder brother of Rāmapāla, was a weak and impolitic Prince. His high-handed proceedings led the Kaivartta King of Vārendra to rebel. His successful rebellion led to much loss of territory

to the Pāla Empire. Mahipāla fought against the rebels, was taken prisoner and put to death. Çūrapāla's reign was weak and inglorious. Then came Rāmapāla who made extensive preparations to crush the audacious Bhima. His maternal Uncle was Mathana or Mahana belonging to the Rāstrakūta race who held a high office under Rāmapāl's Government. His two sons were Mahamāṇḍaleçvaras and his nephew Çivarāja was the Mahāpratihāra the Commander of Household troops. He was Rāmapāla's right-hand man. He went into Vārendra to reconnoitre and then made great preparations. He summoned all the Pāla feudatories. Among these was the lord of the Daṇḍabhukti. The word bhukti means province. We have in Sena inscriptions Pauḍra vardhanabhukti and Vikramapurabhukti. We have Jejābhukti in the Mahoba territory and Tirabhukti the modern Tirhut. Now the question is what Province is known as Daṇḍabhukti? I believe the Province of which the capital was Daṇḍapura, modern Behāra, as identified by Sir A. Cunningham, was Daṇḍabhukti. The Rājā of Daṇḍabhukti had previously defeated Kaṛṇa Keçari the Rājā of Utkala. What strikes me as very curious is the fact that among the numerous feudatories there was a Rājā of Magadha, Bhimajaças by name, who routed the cavalry of the King of Kanoj. The cradle of the Pāla Empire was Magadha. Why should there be a feudatory Rājā there is not clearly explained. The other feudatories were, Viragūṇa the Rājā of Piṭhī, described as the lord of the south. Vikrama, Rājā of Devagrāma. Lakshmiçura the Rājā of the Forest region and of the Mandāra Hills; Çikhara of the race of Tailākampa and an expert in war with elephants and Bhāskara Pratāpa Çila. Two great warriors are also mentioned, not as feudatories; one is Devarakṣita of Piṭhī and the other Sindhurāja.

They crossed the Ganges and entered the Vārendra country. Bhima fought as Rāvana fought against Rāina but was at last defeated and made a prisoner. The army of Kaivarttas was dispersed and Bhima was reduced to a very miserable condition. Here the Commentary breaks off. The Poem has four Cantos, namely—

1. Ārambharāma, the commencement of the career of Rāma.
2. Āsuricakra, the circle of Demons.
3. Rāmapratyāgamana, the return of Rāma.
4. Ramottaracarita, the last part of Rāma's career.

The information most interesting to students of Buddhism is that Rāmapāla checked the progress of a religious revolution and led his people into the path 'pointed out by the good' and this is the time, we know, when Mahāyāna doctrines received a fresh start and the Commentary on the Bodhicaryyāvātara and many other works were written.

I have seen manuscripts of the *Aṣṭasāhasrikā Prajñāpāramitā* copied during Rāmapāla's reign.

Much curious information is likely to be obtained from the rest of the poem if only the mystery in which it is enveloped could be solved without the aid of a Commentary.

The paper will be published in full in the *Journal*, Part I.

PROCEEDINGS
OF THE
ASIATIC SOCIETY OF BENGAL,
FOR APRIL, 1900.

The Monthly General Meeting of the Society was held on Wednesday, the 4th April, 1900, at 9-15 P.M.

H.H. SIR JOHN WOODBURN, M.A., K.C.S.I., President, in the chair.

The following members were present:—

Mr. J. Bathgate, Babu Amrita Lal Bose, Mr. F. Finn, The Revd. Father E. Francotte, Col. T. H. Hendley, I.M.S., Mr. T. H. Holland, Mr. D. Hooper, Mr. T. H. D. La Touche, Mr. C. Little, Mr. R. D. Mehta, C.I.E., Mr. L. de Nicéville, Major D. Prain, I.M.S., Mahamahopadhyaya Hara Prasad Shastri, Mr. E. Thornton, Mr. A. Tocher.

Visitors:—Mrs. T. H. Holland, Mrs. T. H. La Touche, Mr. B. R. Mehta, Mr. M. R. Mehta, Mr. P. B. Mukerji, Mr. H. J. Weston.

The minutes of the last meeting were read and confirmed.

Twenty-three presentations were announced.

Major H. J. Dyson, I.M.S., F.R.C.S.; Mr. J. Lane Long, F.R.G.S. Surgeon-General R. Harvey, M.D., C.B., D.S.O., F.R.C.P.; The Hon. Sir Griffith Evans; The Hon. Mr. T. Raleigh; Lieut.-Col. R. H. Whitwell, I.M.S.; Captain A. H. Bingley, I.S.C.; Captain H. J. Walton, M.B., F.R.C.S., I.M.S.; and Captain Leonard Rogers; M.B., F.R.C.S., I.M.S.; were balloted for and elected Ordinary Members.

The President announced:—

(1) That Mr. R. C. Hamilton, I.C.S., who had been elected a Member of the Society on the 1st November, 1899, having not paid his Entrance fee, his name has been removed from the list according to Rule 9.

(2) That in accordance with Rule 38 of the Society's Rules, the names of the following gentlemen had been posted up as defaulting members since the Monthly General Meeting held in January last, and will be removed from the Member List and the fact published in the Proceedings.

Munshi Aziz-ud-din Ahmad,
Raja Baikunta Nath De Bahadur,
Maulvie Khuda Baksh Khan Bahadur,
Rai Rajkumar Sarvadhikari Bahadur,
Babu Narendra Nath Sen,
Raja Bhupendra Singh Bahadur.

The President also announced that the Council had resolved that a Monthly General Meeting of the Society be held in Simla on the first Wednesday in September next (on which day no meeting is held in Calcutta) for the convenience of members in Northern India and that the meeting be devoted to the reading of papers, the general business of the Society being conducted as usual in Calcutta.

Mahāmahopādhyāya Hara Prasād Çāstri exhibited a manuscript of Kulālikāmnāya—a Tantric work in Gupta character of the seventh century and made the following remarks on it.

In exhibiting this manuscript he offered the following observations :—

(1) It has been obtained from Nepal.

(2) There are 77 leaves in the MS. in Gupta and one in Nevāri character. Seventy-two of the leaves are in tolerably good preservation, five being dilapidated. Leaves 34, 40 to 49, 69, 72 to 84, 86 to 89, 94, 96, 97, 100 to 104, 106 to 109, 111 to 165, 167 to 187, 189 to 259 are missing. The highest number marked 260. The leaves have holes for the string not in the middle but slightly to the right as in the Bower MSS.

(3) The character is Gupta. I have carefully compared the letters with charts of Gupta Alphabet and I believe that in pronouncing it to belong to the seventh century I have erred rather in making it more modern than it really is. The shape of letters agree more with those of Horiuzi Palm-leaves than with any other and the age of the Horiuzi Palm-leaves has been set down at 550 A.D. As they are said to be in Japan since the year 609 A.D. The most useful criterion in determining the age of an old manuscript, is to see how many letters have open tops. The proportion of open tops in the present MSS. appears to be much larger than in the ninth century Gupta Palm-leaves photographed in Professor Bendall's Cambridge Catalogue.

(4) In the Colophons the work *Kulālikāmnāya* is said to be a part of a larger work on Tantra entitled *Kubjikāmata*. The extent of *Kubjikāmata* is said to be 24,000 ślokas and that of the *Kulālikāmnāya* 6,000 only. Fortunately I brought some portion of the *Kubjikāmata* from Nepal last year and on comparison I find that some verses of this work are identical with some verses of that. Both have the same interlocutors, namely, Bhairava and the Devi. The scene is laid in both on the Himalayas at a place named Santānapura a triangular city with three walls, three door-keepers, three gates. It is a rich city inhabited both by celestials and terrestrials.

(5) The Tantras are regarded as very recent works. Some distinguished orientalisists have pronounced them to belong to the fourteenth century. The appearance of this MSS. disproves that assertion. But I will not say anything on this topic to-day as I purpose to read a paper on the Tantrika MSS. in Gupta character at an early date.

(6) The pagination is curious. At the right hand side of each leaf there are four letters one below the other. The top letter is Çri. Below it is the figure. Below the figure is Ma and below it Ş. The whole seems to be an abbreviation of Çri mate Şaṭśāhasre, page —, i.e., page so and so in the compilation running through 6000 verses of the School of the Goddess Çri.

The following papers were read:—

1. *Materials for a Flora of the Malayan Peninsula*, No. 11.—By SIR GEORGE KING, K.C.I.E., M.B., LL.D., F.R.S., &c., late Superintendent of the Royal Botanic Garden, Calcutta.

(Abstract.)

After nearly two years of unavoidable delay a new fasciculus—the eleventh—of those *Materials* has been prepared. The fasciculus gives an account of the natural order *Melastomaceæ*.

The genera described are, 1. OTANTHERA, Bl., two species; *O. celebica*, Bl., new to the Indian Flora, common in the Andamans, and *O. nicobarensis*, T. & B. 2. MELASTOMA, Linn., three species; *M. decemfidum*, Roxb., *M. imbricatum*, Wall., and *M. malabathricum*, Linn., with several varieties. 3. OXYSPORA DC., three species; *O. stellulata*, King, *O. acutangula*, King, and *O. Curtisii*, King, all new to science. 4. ALLOMORPHIA, Bl., three species; *A. exigua*, Bl., *A. Wrayi*, King, and *A. alata*, Scort., the two latter new to science. 5. BLASTUS, Lour., one species, *B. Cogniauxii*, Stapf, new to the Indian Flora. 6. OCHTHOCHARIS, Bl., four species; *O. paniculata*, Korth., *O. borneensis*, Bl., new to the Indian Flora; *O. javanica*, Bl., and *O. decumbens*, King, new to science. 7. ANERINCLEISTUS, Korth., five species; *A. macranthus*, King, *A. Scorte-*

chini, King, *A. Curtisii*, Stapf, *A. floribundus*, King, *A. sublepidotus*, King, all new to the Indian Flora and all except *A. Curtisii*, here published for the first time. The opportunity is taken of describing another new species, *A. glomeratus*, King, from Borneo. 8. SONERILA, Roxb., is described by Dr. Stapf, the well-known authority on the Asiatic species of this genus. Thirty-eight species are described; of these the following are new to science; *S. epilobioides*, Stapf and King, *S. hyssopifolia*, Stapf and King, *S. flaccida*, Stapf and King, *S. andamanensis*, Stapf and King, *S. populifolia*, Stapf and King, *S. pallida*, Stapf and King, *S. rudis*, Stapf and King, *S. mollis*, Stapf and King, *S. albiflora*, Stapf and King, *S. lasiantha*, Stapf and King, *S. suffruticosa*, Stapf and King, *S. elliptica*, Stapf and King, *S. succulenta*, Stapf and King, *S. repens*, Stapf and King, *S. muscicola*, Stapf and King, *S. saxosa*, Stapf and King, *S. congesta*, Stapf and King, *S. cyclaminella*, Stapf and King, *S. bracteata*, Stapf and King, *S. capitata*, Stapf and King, *S. caesia*, Stapf and King, *S. nidularia*, Stapf and King, *S. brachyantha*, Stapf and King, *S. microcarpa*, Stapf and King, *S. costulata*, Stapf and King, *S. macrophylla*, Stapf and King, *S. glabriflora*, Stapf and King, *S. elatostemoides*, Stapf and King, *S. bicolor*, Stapf and King, *S. calycula*, Stapf and King. 9. PHYLLOGATHIS, Bl., five species, *P. tuberculata*, King, *P. Griffithii*, King, *P. Scortechinii*, King, *P. hirsuta*, King, all new to science, and *P. rotundifolia*, Bl. 10. MARUMIA, Bl., three species; *M. nemorosa*, Bl., *M. rhodocarpa*, Cogn., *M. reticulata*, Bl. 11. DISSOCHAETA, Bl., ten species; *D. annulata*, Hook. f., *D. punctulata*, Hook. f., *D. hirsuta*, Hook. f., *D. bracteata*, Bl., *D. pallida*, Bl., *D. gracilis*, Bl., *D. celebica*, Bl., *D. intermedia*, Bl., *D. anomala*, King, and *D. Scortechinii*, King, the two last species new to science. 12. ANPLECTRUM, A. Gray, five species; *A. lepidoto-setosum*, King, new to science; *A. glaucum*, Triana, *A. palleus*, Bl., *A. divaricatum*, Triana, and *A. anomalum*, King, the last species also new to science. 13. MEDINILLA, Gaud., ten species; *M. scandens*, King n. sp.; *M. speciosa*, Bl., *M. heterantha*, King n. sp., *M. venusta*, King n. sp., *M. Hasseltii*, Bl., *M. Scortechinii*, King n. sp., *M. Mainuyi*, Clarke, *M. Clarkei*, King n. sp., *M. crassinervia*, Bl., *M. perakensis*, King n. sp. 14. POGONATHERA, Bl., one species; *P. pulverulenta*, Bl. 15. PACHYCENTRIA, Bl., one species; *P. tuberculata*, Korth. 16. ASTRONIA, Bl., one species; *A. simlacifolia*, Triana. 17. PTERANDRA, Jack, three species; *P. coerulescens*, Jack, *P. echinata*, Jack, and *P. Griffithii*, King, the last species new to science. 18. MEMECYLON, Linn., twenty-eight species, of which the following are new to science; *M. epiphyticum*, King, *M. fruticosum*, King, *M. pubescens*, King, *M. Kunstleri*, King, *M. Hullettii*, King, *M. Kurzii*, King, *M. cinereum*, King, *M. andamanicum*, King. Two doubtful species are also alluded to.

The paper will be published in full in the *Journal*, Part II.

2. *On a new method of treating the properties of the circle and analogous matters.*—By PROMOTHO NATH DUTT, M.A., B.L. *Communicated by the Natural History Secretary.*

3. *Note on four Mammals from the neighbourhood of Darjeeling.*—By W. P. MASSON. *Communicated by the Natural History Secretary.*

The papers will be published in the *Journal*, Part II.

4. *On a Supplement of the Celebrated Lexicon Amarakoṣa by a Buddhist author in very ancient Bengali character.*—By MAHĀMAHOPĀDHYĀYA HARA PRASĀD ČĀSTRĪ, M.A.

Of this supplement which seems to have run through about one hundred leaves we have got only the first, the eighty-fourth the eighty-fifth with distinct page numbers and another with the page number broken off. But all the leaves are precious the first leaf specially.

The Amarakoṣa is very well-known. It was composed by Amarasīṃha one of the nine gems of the Court of the legendary Vikramāditya who seems to have flourished by the middle of the Sixth Century A.D. The Author was a Brāhmaṇa and a worshipper of Čiva. But he subsequently became a Buddhist and is said to have built the great Temple at Bodh Gayā. His invocation at the beginning of his Kosa though thoroughly Buddhistic in tone does not name any deity and so it has been variously interpreted by commentators of different persuasions.

But the Author of the Supplement had no reason to keep the name of his deity in the back ground. He boldly makes his obeisance to the Munindra and to such Hindu deities as have their place in the Buddhist Pantheon. In the second verse he says his attempt is confined to such names as were not used by people when Amara wrote but which have come into use since his time. He retains the arrangement and the technicalities of Amara and makes it in every sense a supplement.

The character (Bengali) is much more archaic than that of the palm-leaves photographed in Professor Bendal's Cambridge Catalogue. In fact it is intermediate between Gupta and old Bengali. If my memory serves me right I saw something like it in Dharmaditya's Copper-plate Grant obtained from Barisal. There is one feature in these leaves which is absolutely unique; I mean the use of something like commas and semi-colons. Each word is separated from its neighbour by a comma or rather a slanting stroke resembling the Bengali *hasanta* mark. Unlike the European comma it has not the point and the curve but it does all the work of a comma in separating various synonyms. Where one set of synonyms end within a verse there are two slanting strokes doing the duty of a semi-colon. The use of these signs makes the reading of the work comparatively easy.

Purusottama, the Author of the supplement, has not only retained the arrangement, the division of chapters, &c., of Amara but has also followed his order of words, adding new synonyms where necessary and putting in new words and sets of synonyms where, had these been in use, Amara would have put them. Amara makes a distinction between Buddha and Čākyaṃuni the former meaning a hypothetical being and the latter the great reformer of the sixth century B.C. Of the first Amara gives 18 synonyms and Purusottama adds 37 new names. Amara gives only four names of Buddha of the sixth century B.C. Purusottama adds four more, Savarthaśiddha, Maḥačramana, Kuḷiçasana, and Gopeça. He adds the names of the members of Gautama's family such as Yoçomati, Rāhula, Devadatta and so on. He also adds the name of Avalokiteçvara and gives many synonyms, one of which is Padmapāni. In the names of the Sungod Purusottama adds new words one of which is Padmapāni. This will explain the fact that the figures of Avalokiteçvara and of the Sungod are often confounded. Both have almost the same figure in Nepal. In Bengal too I have seen images of Avalokiteçvara worshipped as the Sun by Hindus in shrines which are undoubtedly Buddhistic. My only regret is that we have got only four-leaves. I propose to publish these leaves with notes in the *Journal*.

5. *Note on a method of detecting free Phosphorus*.—By P. B. MUKERJI, B.Sc., *Professor of Chemistry, Presidency College, Calcutta*. Communicated by MR. A. PEDLER, F.R.S.

The paper will be published in the *Journal*, Part II.

PROCEEDINGS
OF THE
ASIATIC SOCIETY OF BENGAL,
FOR MAY, 1900.

The Monthly General Meeting of the Society was held on Wednesday, the 2nd May, 1900, at 9.15 P.M.

F. E. PARGITER, Esq., B.A., I.C.S., in the chair.

Six members and one Visitor were present :—

The minutes of the last meeting were read and confirmed.

Twenty-one presentations were announced.

Miss. Butcher, M.D.; Professor Phani Bhushan Mukerji; Mr. George Charles Wolfe; Captain A. F. McArdle, I.M.S.; Mr. Adolphe Shrager; Kumar Satindra Deva Rai Mahasaya; and Mr. F. R. Leistikow, were balloted for and elected Ordinary Members.

Mr. R. Greeven, I.C.S., has expressed a wish to withdraw from the Society.

Mr. Pargiter exhibited the Timur Nāma and other rare Persian works of Shah Jahan forwarded by the Hon'ble Mr. J. A. Bourdillon, and belonging to the Library of Maulavie Khuda Baksh Khan Bahadur, of Patna.

The Monthly General Meeting of the Society was held on Wednesday, the 6th June, 1900, at 9.15 P.M.

MAJOR A. ALCOCK, M.B., C.M.Z.S., F.G.S., I.M.S., Vice-President, in the chair.

The following members were present:—

Mr. J. Bathgate, Dr. T. Bloch, Rai Chuni Lal Bose Bahadur, Mr. F. Finn, Mr. T. H. Holland, Mr. D. Hooper, Mr. H. E. Kempthorne, Captain A. F. McArdle, I.M.S., Mr. C. Michie, Captain C. J. R. Milne, I.M.S., Mr. L. de Nicéville, Mr. F. E. Pargiter, Captain L. Rogers, I.M.S., Mr. E. S. Wood, Mr. E. Thornton, Captain H. J. Walton, I.M.S.

Visitors:—Captain T. B. Kelly, I.M.S., Mr. W. D. Maitland, Babu Hiralal Sinha, Mr. E. Vredenburg.

The minutes of the last meeting were read and confirmed.

Twenty-five presentations were announced.

The Chairman announced:—

(1) That Mr. W. A. Lee had resigned his seat on the Council of the Society.

(2) That the Council had elected Mr. F. E. Pargiter, I.C.S., as Anthropological Secretary in the place of Lt.-Col. L. A. Waddell, I.M.S., resigned.

Major Alcock exhibited a specimen of the giant Marine Isopod *Bathynomus giganteus* A. M.-Edw., recently dredged by the "Investigator" off Ceylon in 594-225 fathoms, and remarked upon its curious and suggestive geographical distribution, the only other locality in which it is known to exist being the Gulf of Mexico.

The specimen exhibited is an adult male and measures nearly a foot in length, along the dorsal curve.

Major Alcock also exhibited a coloured life-size model of a Colubrine snake (*Coluber oxycephalus*) made by native artists from a spirit specimen, and remarked upon this new application of native skill towards the illustration of the Zoology of the country.

The specimen is of life-like exactness, and is one of a large series now being prepared in the Indian Museum for exhibition in the Reptile Gallery.

The following papers were read :—

1. *Note on the Plague in India during the reign of the Emperor Aurangzeb.*—By MAULAVI ABDUL WALI.

In two notes on Tulsī-Dās and the Plague in Benares published respectively in the Proceedings of the Society for March and May, 1898, Dr. Grierson says that the Plague, which raged in India in the reign of Jahāngīr, was probably the cause of the death of the poet Tulsī-Dās. Dr. Bloch, in a supplementary note to the first paper of Dr. Grierson, adds that the Plague broke out in March, 1616 A.D., and lasted eight years.

One of the symptoms of the disease, mentioned by the Emperor in his *Tuzuk-i-Jahāngīrī*, and by the poet Tulsī-Dās in his *Rāmāyaṇa*, (according to the above notes) was the extremely painful boils and bubos which appeared in the groins or armpits. The Plague first appeared in the Panjāb, spread in all the towns and villages in the neighbourhood of Āgra, but there was no trace of it at Fathpur-Sikrī. The disease again increased in the cold weather.

Another most terrible outbreak of the Plague or *Tā'ūn* occurred in the thirty-second year (1100 A.H. = 1688-89 A.D.) of the Emperor Aurangzeb's reign at Bijāpur, and is mentioned in the *Ma'āṣir-i-Ālamgīrī*. The following are the particulars :—

In Muḥarram of the year 1100 A.H., (= October-November 1688 A.D.) the pestilence, Plague, broke out in a virulent type at Bijāpur, at a time when the Emperor and his army were encamped at that city. It burst forth suddenly, and spread rapidly. A terrible mortality ensued, and it struck terror into every heart. All ceremonies of pleasure were abandoned. The world sat bewailing. Verily it was the Day of Judgment (*qiyāmat*) that came upon the people, or an annihilating blast that was about to sweep away the human species.

Under the armpit or in the groin a boil appeared, fever and delirium (*madhūshī*) of such a peculiar type came upon the patient that no treatment gave him relief. The patient died of the pestilence generally in a day or two and sometimes in three days. Those who were so fortunate as to remain safe from its attack, were so much frightened that they considered themselves as dead. In fact, it came to such a pass, that none would care for the other. The cry of *nafsī, nafsī*, (myself, myself), was heard everywhere. *Nīm-Jānān*, i.e., those who were half dead with fright and consternation, having forsaken their everyday business, were only waiting for the hour of death. The maid-of-honour of Her Majesty Aurangābādī Maḥal (the Empress), Muḥammādī Rāj, son of Mahārāja Jaswant Singh, Fāzīl Khān, the Ṣadr, and a host of other nobilities succumbed to the

Plague. The middle class as well as the masses died in large numbers. Their number was estimated to be about 100,000 (one lak). The eyes, tongue and ears of those whose head or brain was affected, became useless. Ghāziu-d-Din Khān Bahādur Firūz Jang also had an attack of the Plague. Though he recovered, he lost his eyesight.* It is useless to speak of the public. In fact no old men, nor any of the chroniclers can ever give an instance of such a terrible outbreak of the pestilence, or such a heavy mortality and the commotion caused thereby. The Plague lasted for two months. Its fury stopped after a week.

It is curious that the tārikh (date) of this outbreak was—

قیامت بود یا شور و با بود

“Was it the Day of Judgment, or the commotion caused by the pestilence.”†

His Majesty relying on God and maintaining the presence of his mind and his indomitable will, was a looker-on of the doings of the *destiny*. He left Bijāpur in Rabi'u-l-awwal, and proceeded on to invade the territory of the Marhatta Sambhā, who was taken prisoner immediately.

From the above facts, we may conclude—

1. That the Plague now invading India for the *first time*, during the sovereignty of the British, is not a new visitor to India. It broke out in the reigns of the Mughal Emperors Jahāngir and Aurangzeb and probably in other periods especially during the rule of the later Mughals.‡

2. That the present epidemic of Plague is undoubtedly more severe and widespread in the *Bombay Presidency* than in other parts of

* *Vide* Ma'āsiru-l-Umarā (Bib. Ind. Ed. Vol. II, p. 875).

† The Miṣra' *Qiyāmat būd yā ghūr-i-wabā būd* gives 1101 A.H. instead of 1100 A.H. The Ma'āsiru-l-Umarā (Vol. III, pp. 32-33), says that Fāzil Khān Shaikh Makhdūm Šadr died of the pestilence that had broken out in the *Lashkar* (army) of 'Ālamgir in the 32nd year of His Majesty's reign, corresponding with 1099 A.H. It appears that the author while correctly quoting the regnal year, was misled from the *heading* of the Chapter in the Ma'āsir-i-'Ālamgiri, which gives both the regnal and Hijri years. But the regnal year did not end till Ramazān, while the Hijri year ended in Zul-Hijja, hence the *discrepancy*. Again, 'Ālamgir reached Bijāpur on the 22nd Jumādā I. 1099 A.H. He celebrated his next *Julūs* in *Shawwāl*, and did not leave the city till Rabi' I. A.H. 1100. The Plague broke out while the Emperor was in the city, in the middle of Muḥarram. So the year cannot but be 1100 A.H. or 1688 A.D.

‡ It is stated that Aḥmad Shāh Durrāni had to leave Hindustān on account of the pestilence (*Wabā*) that broke out in his army (*lashkar*) in the neighbourhood of Akbarābād (Āgra) in or about 1173 A.H. Was this the *Plague*? I have no material at present to prosecute an enquiry on the subject (*vide* M. Umarā II, 720 and III, 892). But Tā'ūn and Wabā very often mean the same disease.

India, as the *Plague in the same tract* in the reign of the Emperor Aurangzeb was far more severe than the one that had broken out in Jahāngir's time.

3. That the symptoms of the disease stated are on fours with those of the pestilence now raging in India.

No record of an outbreak of the *Plague in Bengal* is to be found.* The present outbreak has shown that Bengal is not the place where the disease can take a firm hold. Had there been no railways or steam-ships, or were not Calcutta the Capital of Hindustān, it is likely that Bengal would have escaped entirely this time also.

It is for the leisured antiquarians to find out, from the extant records and Chronicles, of the past, if there were other outbreaks of the disease in India in pre-British times.

2. *Note on the occurrence of Rhodospiza obsoleta, Licht., in the Tochi Valley.*—By CAPTAIN H. J. WALTON, I.M.S.

3. *On the Birds collected and observed in the Southern Shan States of Upper Burma.*—By COL. C. T. BINGHAM, F.Z.S., and H. N. THOMPSON, F.Z.S. Communicated by the Natural History Secretary.

4. *On the form of Cormorant inhabiting the Crozette Islands.*—By F. FINN, B.A., F.Z.S., Deputy Superintendent of the Indian Museum (with exhibition of specimen).

5. *On two rare Indian Pheasants.*—By F. FINN, B.A., F.Z.S., Deputy Superintendent of the Indian Museum, and LIEUTENANT H. H. TURNER (with exhibition of specimen).

6. *Notes on the structure and function of the tracheal bulb in male Anatidæ.*—By F. FINN, B.A., F.Z.S., Deputy Superintendent of the Indian Museum.

The papers will be published in the *Journal*, Part II.

* The unhealthiness, for which the old Capital of Bengal, Gauṛ, was deserted in the sixteenth century A.D., was not I suppose on account of the *Plague*.

PROCEEDINGS
OF THE
ASIATIC SOCIETY OF BENGAL,
FOR JULY, 1900.

The Monthly General Meeting of the Society was held on Wednesday, the 4th July, 1900, at 9.15 P.M.

MAJOR A. ALCOCK, M.B., C.M.Z.S., F.G.S., I.M.S., Vice-President, in the chair.

The following members were present:—

Mr. J. Bathgate, Dr. T. Bloch, Rai Chuni Lal Bose Bahadur, Dr. A. Caddy, Mr. W. K. Dods, Mr. F. Finn, Mr. S. C. Hill, Mr. T. H. Holland, Mr. D. Hooper, Mr. H. E. Kempthorne, Mr. C. Little, Captain C. J. R. Milne, I.M.S., Mr. P. B. Mukerji, Mr. L. de Nicéville, Mr. F. E. Pargiter, Captain L. Rogers, I.M.S., Mr. E. Thornton.

Visitors:—Commander E. J. Beaumont, R.I.M., Captain R. Bird, I.M.S., Babu Jatendra Nath Bose, Major E. H. Brown, I.M.S., Mr. E. H. Elles, Major L. Jones, I.M.S., Captain T. B. Kelly, I.M.S., Babu Dwipendra Nath Maitra, Mr. T. McMorran, Mr. A. E. Silk, Babu Hiralal Sinha, Mr. H. Sudlow, Mr. H. J. Weston.

The minutes of the last meeting were read and confirmed.

Twenty-three presentations were announced.

Babu Syam Sunder Das, B.A., and Mr. A. Earle, I.C.S., were balloted for and elected Ordinary Members.

Maulavi Abdul Karim has expressed a wish to withdraw from the Society.

The Secretary reported the death of Pandit Rajani Kanta Gupta.

The Chairman announced :—

(1) That Captain W. F. O'Connor, R.A., who had been elected a member of the Society on the 6th December, 1899, having not paid his entrance fee, his election has become null and void according to Rule 9.

(2) That Messrs. F. Finn, John Bathgate, and S. C. Hill, had been elected members of Council of the Society.

The Secretary read the names of the following gentlemen who had been appointed to serve on the various Committees for the present year.

Finance and Visiting Committee.

Major A. Alcock, I.M.S., Dr. T. Bloch, Mr. L. de Nicéville, Mr. J. D. Nimmo, Mr. F. E. Pargiter, Mr. A. Pedler, F.R.S., Mr. H. H. Risley, Mahamahopadhyaya Haraprasad Shastri, Dr. Mahendralal Sircar.

Library Committee.

Major A. Alcock, I.M.S., Dr. T. Bloch, Mr. L. de Nicéville, Mahamahopadhyaya Haraprasad Shastri, Mr. D. Hooper, Mr. E. Thornton, Mr. C. W. McMinn, Mr. S. C. Hill, The Hon. Dr. Asutosh Mukerjee, Mr. P. N. Bose.

Philological Committee.

Dr. T. Bloch, Mr. F. E. Pargiter, Mahamahopadhyaya Haraprasad Shastri, Dr. Mahendralal Sircar, The Hon. Dr. Asutosh Mukerjee, Maulavi Ahmad, Babu Pratapa Chandra Ghosha, Mahamahopadhyaya Nilmani Mukerjee Nyayalankara, Shams-ul-Ulama Shaikh Mahomed Gilani, Mr. A. Venis, Lt.-Col. L. A. Waddell, I.M.S., Mr. J. G. Lorimer, Babu Nagendra Nath Vasu, Pandit Satyavrata Samasrami, Major D. C. Phillott, I.S.C., Mahamahopadhyaya Chandra Kanta Tarkalankara.

Coins Committee.

Dr. T. Bloch, Mr. F. E. Pargiter, Lt.-Col. D. S. E. Bain, I.M.S., Mr. L. W. King, Mr. E. Thurston, Babu Panchanan Mukerjee, The Hon. Mr. J. A. Bourdillon, Mr. V. A. Smith.

The proposal to withdraw Rs. 10,000 from the Permanent Reserve Fund for meeting the cost of repairing the Society's premises, and for instituting a "Repairs Fund" for future contingencies, of which

intimation had already been given by circular to all resident members in accordance with Rule 64 A, was brought up for discussion previous to further circulation under Rule 64 (c).

Major Alcock, I.M.S., exhibited specimens illustrating the sounding organs of Crustacea, and made a few remarks on the "musical powers" of the higher Crustacea.

The following papers were read:—

1. *Note on the genus Calinaga, an aberrant genus of Asiatic Butterflies.*—By LIONEL DE NICÉVILLE, F.E.S., C.M.Z.S.

2. *Notes on Birds collected in Kumaon.*—By CAPTAIN H. J. WALTON, I.M.S.

3. *Novicæ Indicæ, XVIII. Some new Plants from Eastern India.*—By D. PRAIN.

(Abstract.)

This paper contains descriptions of twelve species from the North-Eastern Frontiers of India. They are as follows:—

1. *Grewia nagensium*, Prain; Nat. Ord. *Tiliaceæ*, from Upper Assam and the Eastern Naga Hills.

2. *Gomphandra serrata*, King and Prain; Nat. Ord. *Olacineæ*, from the Kachin Hills.

3. *Combretum kachinense*, King and Prain; Nat. Ord. *Combretaceæ*, from the Kachin Hills.

4. *Jasminum excellens*, King and Prain; Nat. Ord. *Oleaceæ*, from the Kachin Hills.

5. *Marsdenia leiocarpa*, King and Prain; Nat. Ord. *Asclepiadaceæ*, from the Kachin Hills.

6. *Ceropegia kachinensis*, Prain; Nat. Ord. *Asclepiadaceæ*, from the Kachin Hills.

7. *Gymnostachyum Listeri*, Prain; Nat. Ord. *Acanthaceæ*, from Chittagong.

8. *Peristrophe longifolia*, King and Prain; Nat. Ord. *Acanthaceæ*, from the Kachin Hills.

9. *Gomphostemma inopinatum*, Prain; Nat. Ord. *Labiatae*, from the Kachin Hills.

10. *Ohloranthus kachinensis*, King and Prain; Nat. Ord. *Cloranthaceæ*, from the Kachin Hills.

11. *Smilax Pottingeri*, Prain; Nat. Ord. *Liliaceæ*, from the Kachiu Hills.

12. *Cryptocoryne Oruddasiana*, Prain; Nat. Ord. *Aroidæ*, from the Kachin Hills.

4. *A list of the Asiatic species of Ormosia.*—By D. PRAIN.

(Abstract.)

This paper gives a list of the Asiatic species (20 in number) of the Leguminous genus *Ormosia* with complete bibliographical references to each of the previously known species. It provides a key to these species, proposes tentatively a system of classification for those that are known, and provides diagnoses and full descriptions of four forms, viz.:—*O. lara*, Prain, a new species from the Kachin Hills; *O. inopinata*, Prain, and *O. inopinata* VAR. *dubia*, Prain, another new species which occurs in two very distinct forms, also from the Kachin Hills; and *O. Henryi*, Prain, an undescribed form from Central China.

5. *The food-plants of the Butterflies of Kanara District of the Bombay Presidency, with a revision of the species of Butterflies there occurring.*—By LIONEL DE NICÉVILLE, F.E.S., C.M.Z.S.

6. *Materials for a Carcinological Fauna of India, No. 6.*—By MAJOR A. ALCOCK, I.M.S.

7. *The relationship of drinking water; water-logging and the distribution of Anopheles Mosquitos, respectively to the prevalence of Malaria North of Calcutta.*—By LEONARD ROGERS, M.D., M.R.C.P., I.M.S., Professor of Pathology, Medical College, Calcutta.

(Abstract.)

In February last (1900), I carried out an inquiry into the health of the tract of country just North of Calcutta and extending up along the east bank of the Hooghly as far as Naihati, some 25 miles, with special reference to the prevalence of malaria. The percentage of people with enlarged spleens was taken as the most reliable test, and over 5,000 persons were examined by myself, the degree of enlargement of the organ being noted. The ground water levels were taken in as many wells as possible, as the unhealthiness of this part has for years been considered to be due to water-logging. The drinking water supply was also noted, and the monthly number of admissions for fever in 10 of the principle dispensaries for the last six years was compared with the monthly rainfall the order to ascertain the seasonal influences. Lastly, some observations were made on the distribution of the anopheles mosquito larvæ.

The following table shows the percentage of persons found to suffer from enlargement of the spleen in each municipality. They are arranged in order from above downwards as they are situated on the map from north to south, while the westernly ones which lie on the east bank of the Hooghly are placed above, and the easternly ones, which lie at a little distance from the river are placed below in the following table:—

TABLE I.

MUNICIPALITY.	SPLEEN PERCENTAGE.
Naihati	19·9
Bhatpara	20·0
Garulia	33·8
North Barrackpore	36·5
Titagarh	37·8
South Barrackpore, West	25·2
Kamarhati	18·8
Baranagar	17·8
Chitpore-Cossipore	11·2
Average	24·5
(Gobardanga)	(55·5)
(Basirhat)	(52·8)
Baraset	52·9
South Barrackpore, East	56·0
Kamarhati, East	34·8
North Dum Dum	68·1
South Dum Dum	32·3
Maniktolla	13·2
Average	41·0

A glance at the above table (which in the full paper is illustrated by a shaded map) shows that the places which are situated on the east bank of the Hooghly river have a much lower spleen rate than those further to the east, although the last five are but from one to two miles from the river. The question arises is to whether the riverine parts are exceptionally healthy or the inland portions especially unhealthy for this part of Bengal, and in order to settle this I examined several hundred people in Basirhat and Gobardanga, which are situated some 25 miles further to the east, and found their spleen rates to be over 50 per cent. It is evident, then, that the riverine portions are

exceptionally healthy for Lower Bengal, but the reason remains to be found.

One very marked exception will be found to the above rule, namely, that Maniktolla although at some distance from the river, yet has a very low spleen rate, the lowest of all the thirteen areas except Chitpore-Cossipore, facts which can only be explained as being due to these two municipalities being the only ones of the lot which have a full filtered water supply. Moreover, this low rate occurs in spite of these two places being the most water-logged in the whole area, their ground water levels being but from 4 to 5 feet below the surface in the dry season, and from 1 to 2 feet down only during the rains.

This result was somewhat surprising in view of recent work on malaria, so advantage was taken of the fact that certain wards of some of the municipalities were partially supplied with filtered water from standpipes provided by certain of the mills within them to examine more closely into the question. The result was ample confirmation of the relationship of the water supply to the spleen rate, illustrative examples of which are as follows. Nailati is divided up into five wards, beginning from the south. The first three are mainly inhabited near the river, and their spleen rates are 19·5, 10·8 and 19 respectively. The very low rate of Ward II coincides with a partial filtered water supply from a mill, which is the only difference between them that can account for the figures. The two most northerly wards are mainly inhabited at a distance of about two miles from the river, and their water supply is mainly from tanks, and although their ground water level is slightly lower than that of Ward III, yet their spleen rates are 22·7 and 27·9. The water supply of Wards I and III is mainly from the Hooghly. Still more striking are the figures for Garulia, in the northern portion of which is a mill which has been supplying filtered water for two years only, during which time the number of cases of fever treated at the local dispensary has fallen to about one-third of what it was before the filtered water came into use, and the greatest improvement took place in the very year that every other dispensary in this area show a great increase of fever. As, moreover, the native inhabitants were very positive that those who drunk the filtered water suffered much less from fever than those who did not, I decided to examine 100 people near the mill, about 80 per cent. of whom had drunk filtered water, and another series at a short distance away, but within one mile of the former, and living under identical conditions, but who differed from the former in not having been accustomed to drink filtered water. The spleen rate was found to be 21·1 per cent. in the former, and 55·5, or

more than two and a half times as great in the latter, which strikingly confirms the local opinion as to the relative immunity of filtered water drinkers from malaria.

Tittagarh, two out of the four wards of which have a partial filtered water supply from mills, afforded a good opportunity of putting the matter to a crucial test, so a note was made of the water drunk by nearly all the people examined. The results are shown in the following tables.

TABLE II.

GROUND WATER LEVEL.

Area.	February.	Rains, 1899.
Ward IV.	10 ft. 1 in.	1 ft. 3 in.
Ward III.	10 ft. 6 in.	1 ft. 6 in.
Ward II. ... ..	.....	.....
Ward I.	18 ft. 4 in.	6 ft. 0 in.

DRINKING WATER SUPPLY.

SPLEEN PERCENTAGE.

River and tank water	48
One-third drank filtered water	30
82 per cent. drank filtered water	19
River and tank water	54·8

The much lower spleen rates in Wards II and III which had a partially filtered water supply, and that too in proportion to the number of persons examined who had drunk the filtered water is evident. But this is not all for it will be seen from Table III below that the spleen rate among 140 filtered-water drinkers is 26·4 per cent., that among 179 river-water drinkers was 41·8, while out of 55 tank-water drinkers (who it should be noted form a minority here), it was no less than 67·2 per cent. Further, only 38 per cent. of filtered water drinkers in which the spleen was enlarged, was it considerably (two finger-breadths below the ribs) or markedly so, while in 62 per cent. it was only just felt between below the ribs. In river-water drinkers it was much enlarged in 67 per cent. and slightly so in 43 per cent., while in tank-water drinkers it was much enlarged in 73 per cent., and slightly so in only 27 per cent. Not only, then, is the spleen much more frequently enlarged in river and tank water drinkers than in those who drink filtered water, but the degree of enlargement is also much greater in the former than in the latter.

TABLE III. ENLARGEMENT.

	SPLEEN PERCENTAGE AND WATER SUPPLY.			
	Filtered water.	River water.	Tank water.	TOTAL.
Spleen not enlarged ...	103	105	18	226
Spleen just felt ...	23 (62%)	32 (43%)	10 (27%)	65
Spleen considerably enlarged ...	9 (24%)	26 (36%)	15 (40%)	50
Spleen markedly enlarged ...	5 (13%)	16 (21%)	12 (33%)	33
Total examined ...	140	179	55	374
Percentage of enlarged spleens ...	26.4	41.8	67.2	39.5

If now the spleen rates for the different municipalities as shown in Table I (and in the Map), be now examined in the light of the figures just given it will be evident that the difference in the water supply will explain all the facts in a way that no other hypothesis will do. Thus, Chitpore-Cossipore has the lowest spleen rates, and it has the double advantage of both a full filtered water supply and close proximity to the river. The influence of the latter is well illustrated by the fact that the spleen rate of the two riverine wards is only 7 per cent., while that of the other two wards which are from one to two miles from the river, is 15 per cent., or just about the same as that of Maniktolla, which is similarly situated. The obvious explanation is that those who do not take the trouble to get the filtered water will drink river water in the wards on its bank, while in those at a distance they will drink tank water. The same point is illustrated by the differences between the spleen rates of the western portions of Kamarhati and South Barrackpore and the eastern portions of the same municipalities, the former with a water supply from the river having just about half the spleen rate as the latter with only tank water for drinking purposes. In short the much lower rate of the riverine parts is due to the difference in the water supply, for as will be shown presently, there is no essential difference in the ground water level which can explain this distribution. The good effect of even a partial water supply is once more shown by the ward variations of the spleen rate in Baranagar and South Dum Dum. In the former the lowest spleen rate, namely, 11.6, is met with in the most southerly of the riverine wards, which borders on Cossipore, and I found that many of the inhabitants of the small ward were getting their filtered water from Cossipore. Again the only ward which is at a little distance from the river in this municipality has the highest spleen rate, being dependant on tank water to a great extent.

South Dum Dum is divided into three wards, and one of these which borders on Cossipore, from which many of the people whom I examined were accustomed to get filtered water had only a spleen rate of 11·8, against one of 35·4 and 45·3 in the other two wards which had only tank water, although in all other respects I could find no difference between the wards. The very fact of the people taking the trouble to carry filtered water from a distance, and their robust belief that they to a large extent escape fever by so doing, must be allowed some weight in favour of the correctness of their belief. The whole of the evidence, then, points to the water supply as the determining factor in relationship to the relative amount of malaria in this tract of country, but other possible factors must be considered, the most important of which is water-logging.

WATER-LOGGING AND THE RAILWAY.

It has already been pointed out that Maniktolla and Chitpore-Cossipore are the most water-logged parts of the whole area, and yet they are the least malarious, owing to their filtered water supply. Further, an examination of the spleen rate and the ground water level ward by ward shows that there is no relationship between the height of the ground water level and the percentage of inhabitants with large spleens. At first sight the fact that the bank of the Hooghly river is very slightly higher than the surrounding country, so that the drainage flows away from the river and eventually finds its way back through khals, or runs into the Great Salt Lake to the East of Calcutta, might appear to indicate that the eastern portions of this area must have a higher ground water level than those near the river bank. Measurements in the wells, however, do not bear this out, for there is very little difference in this respect, while what little there is is rather more frequently in favour of the eastern portions than against them. Further if different wards of the same municipalities are compared no definite or constant relationship between the slight variations in the ground water level which are met with and the spleen rate is found, as a study of the tables in the full paper or the map will show.

The Eastern Bengal Railway, which runs from north to south through this area, and together with the grand trunk road roughly divides the western and eastern portions, has frequently been held to be responsible for the unhealthiness of the country, for it lies across the line of drainage. As, however, the drainage flows from west to east it is obvious that if it materially obstructs the drainage the part to the west of its course should be the more unhealthy, while precisely the opposite is the case. Moreover, in places in which wells were

found on either side of the railway, although not very near it, there was no marked or constant difference in the ground water levels on either side of the railway. The differences in the spleen rates in this tract of country cannot, then, be explained on any theory of water-logging, or interference with drainage by railways or roads, although the natural drainage of places is certainly bad, as in North Dum-Dum.

Again, it might be thought that the lower rate in the western parts might be due to greater density of population, and consequently less fever breeding grounds for the anopheles mosquitos. With regard to the former it may be pointed out that there was practically no difference in the spleen rate of the densely populated western portion of Manik-tolla and the very sparsely populated and somewhat more water-logged eastern part of the same place, both having a filtered water supply, and other similar instances could be given. Further the great differences in the spleen rates of the contiguous wards of the same municipalities in which every condition except the water supply are precisely similar, which have already been detailed, cannot be explained on any theory of varying density of population, or of mosquito breeding grounds.

DISTRIBUTION OF THE ANOPHELES MOSQUITOS.

The question of the relationship of the anopheles mosquitos to the prevalence of malaria remains to be considered. It must now be taken as proved that malaria may be communicated to man through the bites of mosquitos which have some days previously bitten another case of malaria, but it still remains to be proved whether this is the only or even the most common cause by which this protean disease is communicated. The point is one of the utmost importance to Bengal, one of the principal homes of malaria, for if the disease is only communicated by the bites of these tiny pests, and they only breed in certain small pools, namely, those which are too small to harbour fish, yet not so small as to dry up in a day or two, as Major Ross states is the case, then by searching out these breeding grounds and destroying the larvæ in the pools we may hope with Ross to at least rid towns or small areas of malaria. Unfortunately I have not been able to confirm these last statements of Ross, for both at Gobardanga and at Manik-tolla, which are at the extreme of the tract of country under observation, I easily found numerous anopheles larvæ both in tanks and in smaller pools all of which contained very numerous fish. As it was impossible to minutely examine 100 square miles or so of this area I determined to map out and closely search all the pools and tanks in

a small area of the Maniktolla Municipality. The results which were obtained are as interesting as they were unexpected. I much regret that I have not been able to confirm Major Ross' observations as to the very localised and small number of the breeding places of anopheles mosquitos. On the contrary I found them very commonly in large tanks, and that too in spite of most of them swarming with fish. In fact in the dry season when small pools are few in number the tanks are the common breeding place. Further, although I found them in two out of three very small pools (from two to five yards in diameter), and with but some two inches of water in them, these pools also contained small fish, which during some time that I watched them did not touch one of the anopheles larvæ which floated temptingly past their noses, although they eat several small beetles, which they appeared to prefer. If then, the larvæ can survive in spite of fish in such tiny pools is it any cause for wonder that they live in tanks.

The question then arises as to whether there is any relationship between the number of anopheles and the amount of fever, in order to test which I resolved to make a monthly examination of some thirty tanks, together with any pools near them in a small area of Maniktolla. These observations will have to be continued for a year, but it may be mentioned here that during the dry season, when malaria fevers were at a minimum, from one-third to two-thirds of the tanks have been found to harbour the anopheles larvæ, and that too at a time when three visits to the local dispensary, after having given notice that all fever cases were to be kept for me to see, I failed to obtain a single case. Yet some of the tanks were estimated to have contained over one million larvæ, so thickly were they lying near the leeward bank in particular. In short it would have taken a very large number of the small pools to harbour as many larvæ as one of these tanks, so that in this area the tanks form the principal breeding ground in the dry season at any rate. It will be very interesting to see what happens in the rainy season, but I may mention that after the recent heavy rain the larvæ nearly disappeared from the tanks, and were enormously reduced in numbers in spite of several new small infected pools having appeared, so that further observations promise to be of interest.

The importance of the above observations lies in the impossibility of destroying all the anopheles larvæ in even a very small area in Bengal, for the thirty tanks mentioned above all lay within an area of one-sixteenth of a square mile, and formed but a small fraction of those of the very small municipality of Maniktolla, so that unless some very much more potent method of destroying mosquitos is discovered I

fear that Bengal will not have its malaria much reduced by Ross' ingenious suggestions. If, too, all malaria is due to the bites of these mosquitos and they are present in such great numbers in the minimal fever season, how many will be found in the maximal fever period, and how great will be the difficulty of destroying them ?

It may be objected that possibly many of the anopheles found by me in the tanks were varieties which do not carry malaria, but until we know which are harmless and can easily distinguish them at a glance, this will not lessen the difficulty of destroying the really dangerous ones, if indeed any of them are harmless.

The importance of the action of a filtered water supply in greatly reducing the amount of malaria, which has been demonstrated in this paper, is enhanced by the great difficulty of destroying the malaria-bearing mosquito, and also raises the question as to whether these insects may not carry the infection from cases of fever back to the water of tanks, etc., and the disease may not commonly be obtained by drinking such infected water, which has for centuries been considered to be a frequent medium through which the disease may be obtained. This important question can only be settled by experiment, which I hope shortly to be able to undertake.

Lastly, many charts have been made showing the monthly number of fever cases treated in the dispensaries of this area together with the monthly rainfall. It appears from these that the conditions which influence the amount of fever in different years is a general one, for all the dispensaries show very similar curves in the same year (except when the water supply has been materially altered as in the case of Garulia) so that some general cause must have been in operation. On the other hand, there is no definite relationship between low or heavy annual rainfall and the amount of fever, as I have shown elsewhere is the case on laterite soil with rapid ground water variations. There does, however, seem to be some relationship between the daily distribution of the rain and the amount of fever, but my observations on this point are not sufficiently advanced to allow of any definite statement on the subject at present.

The broad result of the present inquiry, then, is simply that there is a very definite relationship between the drinking water and the amount of malaria, as judged by the spleen rate in this alluvial area.

PROCEEDINGS
OF THE
ASIATIC SOCIETY OF BENGAL,
FOR AUGUST, 1900.

The Monthly General Meeting of the Society was held on Wednesday, the 1st August, 1900, at 9.15 P.M.

MAJOR A. ALCOCK, M.B., C.M.Z.S., F.G.S., I.M.S., Vice-President, in the chair.

The following members were present:—

Mr. J. Bathgate, Babu Man Mohan Chakravarti, The Revd. E. Francotte, S.J., Mr. S. C. Hill, Mr. T. H. Holland, Mr. T. H. D. La Touche, Captain A. F. McArdle, I.M.S., Mr. L. de Nicéville, Dr. P. C. Ray, Mr. M. J. Seth, Mahamahapadhyaya Haraprasad Shastri, Pandit Jogesh Chandra Shastri, Mr. A. Shrager, Mr. E. Thornton.

Visitors:—Babu Bhuban Mohan Chatterjee, Mr. A. E. Duchesne, Pandit Navakanta Kavibhusan.

The minutes of the last meeting were read and confirmed.

Thirty-five presentations were announced.

Mr. C. G. H. Allen, I.C.S., and Major E. H. Brown, I.M.S., were balloted for and elected Ordinary Members.

The Secretary announced the death of H.R.H. the Duke of Saxe-Coburg, who has been an Ordinary Life Member of the Society since the 9th March, 1870.

The Secretary announced that Mr. F. E. Pargiter, Honorary Anthropological Secretary, had been appointed by the President according to Rule 47 to act as General Secretary during the absence of Mr. T. H. Holland between the 21st and 30th of July.

Major A. Alcock, I.M.S., exhibited some wood showing some of the supposed results of a storm in Assam.

The following papers were read:—

1. *Further researches on Mercurous Nitrite and its derivatives.*—
By DR. P. C. RAY.

(Abstract.)

The first portion of this paper deals with the preparation of mercurous nitrite on a large scale, as also obtaining it in a chemically pure state.

The second portion takes up the preparation of ethyl nitrite and its isomer nitroethane by the interaction of mercurous nitrite and ethyl iodide. It is here shown that mercurous nitrite behaves just like silver nitrite.

The last portion describes certain interesting reactions between mercurous and mercuric nitrites on the one hand and silver and sodium nitrite respectively on the other.

2. *On Mercurous Iodide, and a new method of its preparation.*—By
DR. P. C. RAY.

(Abstract.)

The Author shows that when the residue after the reaction between mercurous nitrite and ethyl iodide is heated in a tube, mercurous iodide, as might have been expected, sublimes off. Some new properties of this compound have also been added.

3. *Antiquities of the Tantras and the Introduction of Tantric rites in Buddhism.*—By MAHAMAHOPADHYAYA HARAPRASAD SHASTRI.

(1). I have examined one Tantrik work entitled *Laṅkavatara* in the Darbar Library, Nepal, written in later Gupta hand, bearing as the date of copying, the 28th year of the Newar era which corresponds to 908 of the Christian era. It is a work on the treatment of fever and other diseases by medicine, incantation and charms. It is addressed to Bibhisana the brother and successor of Ravana. Bibhisana is said to be immortal and the work is addressed to him. This work is to be differentiated from the celebrated work entitled *Laṅkavatara sūtra* of the

Buddhists. This is Hindu and tantra written in verse and that is Buddhistic sutra work written in verbose prose and verse.

I examined another work entitled *Niçvāsa-tattva-saṃhitā* at the same Library, written in a Gupta character older than the preceding. This is perhaps the first time that an important original tantrik work has been found complete. It bears no date but it must be more than a century older than the other. The scene is laid in the Naimisāranya the traditional home of the Puranas and the interlocutors are Rṣis or Ancient Indian Sages. The subject of their conversation is the *dikṣā* or initiation other than Vaidic. The Rṣis wonder how can there be such a thing as *dikṣā* without any reference to the Vedas. But the eldest among them explains to them that even the great Gods like Brahma, Visnu and others received non-Vedic *dikṣā* at the very spot they were sitting upon.

The third Tāntrik work in Gupta character has been very recently acquired for the Asiatic Society. It is a fragment written in character older than the preceding. It is a portion of the *Kulalikāmuṛya* which again is a part of a much larger work entitled *Kubjikāmata*. I exhibited this work at the April meeting of the Asiatic Society which was presided over by His Honour the Lieutenant-Governor of Bengal.

The discovery of these three works pushes back the antiquity of the tantras to about the fifth or sixth century A. D., the time of Asanga, credited by the Buddhists with the introduction of Tantra into their religion (see page 208 Buddhism by Rhys Davis).

(2). The other discovery I have made is not so much from books and MSS. as from actual observation in Nepal. It was always a puzzle to me that the pure metaphysical religion of Buddha could be made the medium of practising immoral and obscene rites. The Buddhist Trinity Dharma (Religion) Buddha and Sangha (Buddhist monastic congregation) are merely abstract ideas personified. All the three words are in masculine gender. How can there be the introduction of female divinities and subsequent obscene rites? But on entering the Holiest of the Great places of Pilgrimage in Nepal, the Svambhu Ksetra, I was struck with a female figure labelled or inscribed as *Namo dharmaya*. I at once enquired from the Residency Pandit, a Buddhist high-priest himself and the descendant of the most learned of Buddhist Pandits ever met with by the English in Nepal. He coolly said *Dharma* is nothing else but *Prajñā*. I had often read in Buddhist works the phrase *Prajñopāyasvarūpinim* or *svarupāya*. I know that Buddha is never an object of worship. His image is kept in monasteries simply for the purpose of keeping his noble example always present before the aspirers to Nirvāna, and so he is the *Upāya* or means to Nirvāna. I also knew that *Prajñā* or true knowledge is the great goal of those who aspired to Nirvāna. But none ever suspected that Dharma and *Prajñā* are

identical. This identification introduced a female deity into the Buddhist Trinity and she at once became the mother of all Bodhisattvas, beings representing the saṅgha or the Buddhist congregation. In a MS. in the Durbar library belonging to the Kālacakra School I subsequently saw illustrations of *Buddha* and *Prajñā* in the unspeakable situation begetting Bodhisattvas. This information led to the explanation of many facts and symbolisms unexplained before. Buddhism subsequently became closely allied to Çakti worship and its later development ran in parallel lines with that of Çakti cult.

PROCEEDINGS
OF THE
ASIATIC SOCIETY OF BENGAL,
FOR OCTOBER AND NOVEMBER, 1900.

A General Meeting of the Society for the reading of papers was held at Simla on the 5th October, 1900, at 5 P.M.

H. H. RISLEY, Esq., I.C.S., C.I.E., Vice-President, in the chair.

H.E. BARON CURZON OF KEDLESTON, Patron of the Society was present.

Mr. H. H. Risley exhibited and explained:—

- (a) a fire-drill used by the Todas for kindling the fire in the sacred cow-house,
- (b) a photograph of the wooden elephant used by the Kondhs of Ganjam and the Orissa hills for the purpose of human sacrifice,
- (c) a *tāli*, or marriage symbol of the Chenchu tribe in Southern India, and
- (d) a coin of the Nameless King, one of the Scythian rulers not yet identified.

The following papers were read:—

(1). *Description of a new Himalayan genus of Orobanchaceæ.*—By J. S. GAMBLE, M.A., F.R.S., and MAJOR D. PRAIN, I.M.S., LL.D.

(Abstract.)

This new genus *Gleadovia* Gamble and Prain, is dedicated to Mr. F. Gleadow who first actually found it. It has the facies of

a *Christisonia* but differs from that genus in having both anther-cells perfect; the corolla 2-labiate and the stigma equally 2-lobed.

It is nearest to *Conopholis* with which it agrees as to corolla and stamens but from which it differs as regards calyx and stigma. From *Boschniackia* it differs somewhat as regards corolla and greatly as regards stamens. From *Xylanche* (*Boschniackia himalaica*) it further differs in having 2 carpels not 3. From all three genera it differs as regards inflorescence which is spicate in those but paniculate in *Gleadovia*.

(2). *The Humours of Coin-collecting*.—By R. BURN, I.C.S.

(3). *How Rome would have ruled India*.—By W. S. MEYER, I.C.S.

In the discussion which followed the Chairman, The Hon. Mr. T. Raleigh and H.E. Lord Curzon took part.

The Monthly General Meeting of the Society was held on Wednesday, the 7th November, 1900, at 9 P.M.

LIONEL DE NICÉVILLE, Esq., F.E.S., C.M.Z.S., in the chair.

The following members were present:—

Major A. Alcock, I.M.S., Mr. J. Bathgate, Mr. W. B. Colville, Dr. A. Krafft von Delmensingen, Mr. W. K. Dods, Mr. F. Finn, Mr. S. C. Hill, Mr. T. H. Holland, Mr. H. E. Kempthorne, Mr. F. R. Leistikow, Mr. F. E. Pargiter, Mr. G. F. Reader, Captain L. Rogers, I.M.S., Pandit Jogesh Chandra Shastri, Mahamahopadhyaya Haraprasad Shastri, Mr. E. Thornton.

The minutes of the meetings held in August and October last were read and confirmed.

Seventy-five presentations were announced.

The Hon. Mr. E. N. Baker, C.S.I., I.C.S., Mr. F. O'Dwyer, I.C.S., Mr. H. A. Rose, I.C.S., Captain John Stephenson, I.M.S., Captain J. C. S. Vaughan, I.M.S., The Hon. Mr. H. C. Fanshawe, C.S.I., I.C.S., Mr. G. F. Reader, Mr. O. V. Bosanquet, I.C.S., The Hon. Sir Edward F. G. Law, K.C.M.G., and Maulavi Muhammad Abdullah, M.A., were elected Ordinary Members during the recess in accordance with Rule 7.

Mahamahopadhyaya Nilmani Mukerjee, and Lieut.-Col. R. H. Whitwell, I.M.S., expressed a wish to withdraw from the Society.

The Secretary reported the death of the following members:—

Babu Guruprasad Sen (Ordinary Member).

Dr. Aghore Chandra Bhaduri (Do.).

Dr. J. Auderson, F.R.S. (Life Member).

Prof. The Right Hon. F. Mâx Müller (Honorary Member).

The Chairman announced:—

1. That in accordance with Rule 38 of the Society's Rules, the name of the following gentleman had been posted up as a defaulting member since the last meeting, and will be removed from the Member List.

Rai Nali Naksha Bose Bahadur.

2. That Mr. J. Lane Long and Mr. George Charles Wolfe elected members of the Society on the 4th April and 2nd May, 1900, respectively, having not paid their entrance fees, their elections have become null and void under Rule 9.

The General Secretary reported that Dr. G. Thibaut had been appointed to serve on the Philological Committee of the Society during the present year.

The General Secretary also reported the presentation of the following coins:—

1. From Lieut.-Col. D. S. E. Bain, I.M.S., 6 gold coins found at Covercolly, North Coorg.
2. From the Deputy Commissioner, Wun District, 4 silver coins as described in the Society's *Proceedings* for March 1897.
3. From the Government of North-West Provinces and Oudh, 15 lead coins.
4. From the Bombay Branch, Royal Asiatic Society, 2 silver coins found in the Kaira District.

The proposal to withdraw Rs. 10,000 from the Permanent Reserve Fund for meeting the cost of repairing the Society's premises and for instituting a "Repairs Fund" for future contingencies of which intimation had already been given by circular to all members was brought up for final disposal. The votes of the members were laid on the table and the Chairman requested any Resident Members who had not expressed their opinion to take the present opportunity of filling in voting papers. Eight such papers were filled in and, with the 115 returned by members, were scrutinized, the Chairman appointing Mr. S. C. Hill and Captain L. Rogers, I.M.S., to be Scrutineers. The Scrutineers reported as follows:—

121 For the proposals.
1 Against.
1 Doubtful.

Mahamahopadhyaya Haraprasad Shastri exhibited a palm-leaf written under the order of Vidyapati for his Library.

The following papers were read:—

1. *Ancient stone implements in the Santal Parganas.*—By THE REV. P. O. BODDING.
2. *Notes on the Vēlama Caste in Barar.*—By CAPTAIN WOLSELEY HAIG, I.S.C.

PROCEEDINGS
OF THE
ASIATIC SOCIETY OF BENGAL,
FOR DECEMBER, 1900.

The Monthly General Meeting of the Society was held on Wednesday, the 5th December, 1900, at 9 P.M.

COLONEL T. H. HENDLEY, C.I.E., I.M.S., Vice-President, in the chair.

The following members were present :—

Mr. J. Bathgate, Dr. T. Bloch, The Hon. Mr. C. W. Bolton, C.S.I., Rai Chuni Lal Bose Bahadur, Major E. H. Brown, I.M.S., Dr. A. von Kraft Delmensingen, Mr. J. Eliot, F.R.S., Mr. E. B. Havell, Mr. S. C. Hill, Mr. T. H. Holland, Mr. D. Hooper, Mr. F. R. Leistikow, Mr. W. S. Meyer, Mr. W. H. Miles, Mr. L. de Nicéville, Mr. F. E. Pargiter, Mr. A. Pedler, F.R.S., Major D. Prain, I.M.S., Captain L. Rogers, I.M.S., Dr. P. C. Ray, Mr. M. J. Seth, Mahamahopadhyaya Haraprasad Shastri, Pandit Jogesh Chandra Shastri, Mr. A. Tocher, Mr. E. Thornton, Dr. G. Watt, C.I.E.

Visitor :—The Revd. J. H. N. McNeil.

The minutes of the last meeting were read and confirmed.

Twenty-seven presentations were announced.

Mr. Birendra Chandra Sen, I.C.S., Mr. E. V. Gabriel, I.C.S., Mr. Imre Geo. Schwaiger, Mr. J. W. A. Grieve, Captain W. F. O'Connor, R.A., Mr. H. C. Woodman, I.C.S., and Mr. John Nicoll, were balloted for and elected ordinary members.

The Chairman reported that the Council had appointed Babu Charu Chandra Bhattacharyya as the Pandit for the Oriental Library of the Society, in the place of Pandit Annadaprasad Sarasvati, deceased.

The Chairman announced that in accordance with Rule 38 of the Society's Rules, the names of the following gentlemen had been posted up as defaulting members since the last meeting, and will be removed from the Member List.

Babu Radhika Raman Chatterjee,
Varada Charan Mitra, Esq., I.C.S.

The General Secretary at the request of the Swedish Academy, Stockholm, called attention to the Nobel prizes for literature and science. The endowment for these prizes is based on the Will, dated 27th November 1895, of the late Dr. A. B. Nobel, engineer, who stipulated as follows :

"The remainder of the fortune which I shall leave shall be disposed of in the following manner: The capital, converted into safe investments by the executors of my Will, shall constitute a fund the interest of which shall be distributed annually as a reward to those who, in the course of the preceding year, shall have rendered the greatest services to humanity. The sum total shall be divided into five equal portions, assigned as follows :

"(1). To the person having made the most important discovery or invention in the department of physical science.

"(2). To the person having made the most important discovery or having produced the greatest improvement in chemistry.

"(3). To the author of the most important discovery in the department of physiology or of medicine.

"(4). To the author having produced the most notable literary work in the sense of idealism.

"(5). To the person having done the most, or the best, in the work of establishing the brotherhood of nations, for the suppression or the reduction of standing armies, as well as for the formation and the propagation of peace conferences.

"The prizes will be awarded as follows: For physical science and chemistry, by the Swedish Academy of Sciences; for works in physiology or medicine, by the Carolin Institute of Stockholm; for literature, by the Academy of Stockholm; finally, for the work of peace, by a committee of five members, elected by the Norwegian Storting. It is my expressed will that nationality shall not be considered, so that the prize may accrue to the most worthy, whether he be a Scandinavian or not."

Each of the annual prizes established by the Will will be awarded at least once in the course of every period of five years, commencing with the year immediately following that in which the Nobel endowment enters on its functions, and the sum total of a prize thus awarded will in no case be less than 60 per cent. of the part of the yearly revenues disposable for the distribution of the prizes ; neither can it be divided into more than three prizes at the most.

The first distribution of prizes for all sections will take place, if possible, in 1901. From the endowment resources will be deducted: First, a sum of 300,000 crowns (16,000*l.*) for each section—that is, 1,500,000 crowns (80,400*l.*) in all—which, with the interest commencing from January 1, 1900, will be used to cover, in proportion, the expenses of the organisation of the Nobel institutes in addition to the sum the board of administration shall judge necessary for the acquisition of a special site destined for the administration of the endowment and including a hall for its meetings.

The right of presenting proposals for prizes belongs to—

(1). Native and foreign members of the Royal Academy of Sciences. (2) Members of the Nobel committees for natural philosophy and chemistry. (3) Professors who have received the Nobel prize of the Academy of Science. (4) Ordinary and extraordinary professors of natural sciences and chemistry in the Universities of Upsala, Lund, Christiania, Copenhagen and Helsingfors, in the Carolin Institute of Medicine and Surgery, the Superior Technical Royal School, as well as to the professors of the same sciences in the Stockholm High School. (5) Incumbents of corresponding chairs of at least six universities or high schools, which the Academy of Science will select, taking care to divide them suitably between the different countries and their universities. (6) Learned men, to whom the Academy shall judge proper to send an invitation to this effect.

The invitations will be sent every year in the month of September. Proposals for the prize must be made before February 1 of the following year. They will be classified by the Nobel committee and submitted to the college of professors. The Nobel committee will decide which of the works presented shall be submitted to a special examination. The college of professors will pronounce definitely on the distribution of the prize in the course of the month of October. The vote will be taken in secret ; if necessary, the question may be decided by drawing lots.

The right to present candidates for the Nobel prize belongs to the members of the Swedish Academy, the French Academy, and the Spanish Academy, which resemble the Swedish Academy in their

organisation and aim; to the members of the literary departments of other academies, as well as to the members of literary institutions and societies analogous to academies; to professors of æsthetics, of literature and of history in the universities. This order must be published at least every five years.

The proposal to alter the status of the Society of which intimation had already been given by circular to all resident members in accordance with Rule 64 A., was brought up for discussion previous to further circulation under Rule 64(c).

The following papers were read:—

1. *Note on 'Abdul Qādir Badayūni's place of burial.*—By H. BEVERIDGE, Esq.

Mr. Blochmann in his valuable paper on Badāoni and his works (J.A.S.B., Vol. XXXVIII, Part I, p. 144) says "Mr. Harrison (of the Barqilly College) informs me that a gentleman in Badāon has been at some pains to discover among the numerous and decaying tombs of 'Aṭāpūr' the grave which encloses the remains of 'Abdul Qādir, but that his efforts have not been successful. It would be anything but antiquarian sentimentality to renew the search for the resting place of a man who has left us not exactly the fullest, yet the most original and independent history of the great Emperor."

This was published in 1869, and I am happy to be able to inform the Society that Badayūni's grave is still extant, and that it was pointed out to me on the 12th December, 1899, by Qāzi 'Alī Aḥmad Maḥmūd Ullāh Shāh, a resident of Badaun and a gentleman who is interested in historical studies.¹

The grave lies in a field about two miles east of the town of Badaun and on the left hand side of the road leading to Shāhjāhānpūr. There are at least six tombs there, and none has any name or date, but tradition identifies one of them as Badayūni's. The others are those of members of his family. They are in a small patch of waste land, raised above the level of the rest of the field, and covered with clumps of the long grass (elephant-grass?) from which *Mūnj*-Matting is made. The village of 'Aṭāpūr,' where Badayūni is said to have been buried, has ceased to be inhabited or to be remembered, and the field is reckoned

¹ It is Ṭufail Ahmed a brother of this gentleman and a pleader of the Badaun Court, who has repaired the Chief Mosque of Badaun.

as included in the village of Mūjhia. It seems desirable that steps should be taken to preserve the graves and also to mark the one which is Badayūni's.¹

At p. 134 Mr. Blochmann says that it was the transfer of Badayūni's grant of land from Bisāwar to Badaun which has procured for him the name of Badayūni. But the local account is that Badaun was the home of his ancestors, though he himself was born at Tūnda near Bisawar on the road from Agra to Ajmir. The quarter of the town of Badaun where his ancestors lived is still pointed out.

There is an excellent account of Badayūni in Manvi Muḥammad Ḥusain Shams-al-Ulamā's Darbār-i-Akbarī (Lahore 1898), and at p. 461 of it there is a reference to the grave. The author there quoted under the *takhalluṣ* of Khūshgō is, I presume, the Rai Bakhtāwar Singh whose Chronicles of Badaun were published at Bareilly in 1868. Muḥammad Ḥusain adds that Badayūni is said to have left a daughter whose descendants still live in Khasiabad in Oude.

It will be observed that I have written the name, Badayūni. This is in accordance with the Gazetteer of the N. W. Provinces, and the Darbār-i-Akbarī, and also with the pronounciation of some native gentlemen. Others seem to pronounce it Badaūni, i.e., with the *u* short. But the town is always spelt Badaun, and the *o* of Badaoni seems wrong, unless merely intended to prevent the *a* as being pronounced as a diphthong. See however Mr. Blochmann's Note on the point.

2. *Abul Fazl's account of the Sarkar Multan in the third book of the Ain-i-Akbari.*—By E. D. MACLAGAN, Esq., I.C.S.

¹ The field seems to be known to the villagers as the "Field of the Vizier" but is called by Qāzī Ahmed the *Milkiyāt* and the *Nirkhiyān kā Khēt*.

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PROCEEDINGS
OF THE
ASIATIC SOCIETY OF BENGAL.

EDITED BY
THE HONORARY SECRETARY,



JANUARY TO DECEMBER,
1901.



CALCUTTA :
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1902.

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PROCEEDINGS
OF THE
ASIATIC SOCIETY OF BENGAL,
FOR JANUARY, 1901.

The Monthly General Meeting of the Society was held on Wednesday, the 2ndnd January, 1901, at 9 P.M.

L. DE NICÉVILLE, Esq., F.E.S., C.M.Z.S., in the chair.

The following members were present:—

Mr. J. Bathgate, Dr. T. Bloch, Mr. F. Finn, The Revd. E. Francotte, S.J., Mr. T. H. Holland, Mr. H. E. Kempthorne, Mr. W. A. Lee, Kumar Rameshwar Malliah, Mr. J. Nicoll, Mr. I. G. Schwaiger, Mahamahopadhyaya Haraprasad Shastri.

The minutes of the last meeting were read and confirmed.

Nineteen presentations were announced.

Pandit Ramavatar Pande, B.A., I.C.S., Dr. U. C. Mookerjee, M.B., C.M.; Lieut.-Col. G. F. A. Harris, I.M.S., Mr. C. A. Radice, I.C.S., Mr. K. J. Badshah, B.A., I.C.S., Mr. Duncan Campbell and Babu Karttik Chandra Mittra, M.A., B.L., were ballotted for and elected Ordinary Members.

The Revd. Thomas Foulkes and Raja Pearymohan Mukerjee expressed a wish to withdraw from the Society.

The Chairman announced that up to date no essays had been received in competition for the Elliott Prize for Scientific Research for 1900.

The General Secretary reported that the Society had received for the information of intending observers, two copies of an official hand

book describing the climatological conditions, etc., of the tract of moon's shadow across the Malay Archipelago during the Solar Eclipse of May 17-18, 1901.

Mr. F. Finn exhibited a living specimen of a Guinea-fowl showing a feathered tassel on the throat.

Mahamahopadhyaya Haraprasad Shastri exhibited Photographs of certain ancient writings on Palm-leaves.

The following paper was read:—

1. *An additional note on the identification of Vesali.*—By DR. W. HOEY.

LIBRARY.

The following additions have been made to the Library from 7th December, 1899 to 5th December, 1900.

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presented by the respective Societies and Editors.

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MISCELLANEOUS PRESENTATION.

- ABDUL KARIM. Muhammadan Education in Bengal.
- ADAMS, LT.-COL. ARCHIBALD. Western Rajputana States: a Medico-Topographical and general account of Marwar, Sirohi, Jaisalmir.
- AIYAR, T. S. KUMARASWAMI. Velapuri or a peep into the past of Vellore.
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PROCEEDINGS
OF THE
ASIATIC SOCIETY OF BENGAL,
FOR FEBRUARY, 1901.

The Annual Meeting of the Society was held on Wednesday, the 6th February, 1901, at 9 P.M.

HIS HONOR SIR JOHN WOODBURN, M.A., K.C.S.I., President, in the chair.

The following members were present :—

Major A. Alcock, I.M.S., The Hon. Mr. E. N. Baker, Mr. J. Bathgate, Dr. T. Bloch, Rai Chunilal Bose Bahadur, Babu Nagendra-nath Bose, Mr. B. Chaudhuri, Mr. J. Eliot, F.R.S., Mr. A. U. Fanshawe, Mr. C. L. Griesbach, C.I.E., Surgeon-General R. Harvey, Mr. E. B. Havell, Col. T. H. Hendley, C.I.E., Mr. S. C. Hill, Mr. T. H. Holland, Mr. D. Hooper, Dr. A. von Krafft, Mr. G. W. Küchler, Mr. W. A. Lee, Mr. L. de Nicéville, Mr. J. D. Nimmo, Mr. F. E. Pargiter, Mr. A. Pedler, F.R.S., Captain L. Rogers, I.M.S., Mr. C. Saunder, Mr. I. G. Schwaiger, Mr. M. J. Seth, Mahamahopadhyaya Haraprasad Shastri, Pandit Yogeshchandra Shastri.

Visitors :—Babu Bhubanmohan Chatterjee, Babu Nandalall Chatterjee, Mr. E. C. Cotes.

The President in an opening address expressed on behalf of the Society the feeling of sorrow with which they had learned of the death of Her Majesty the Queen. His Honor briefly reviewed the work of the past year, and then called upon the General Secretary to read the Annual Report.

ANNUAL REPORT FOR 1900.

The Council of the Society have the honor to submit the following Report on the state of the Society's affairs during the year ending 31st December, 1900. As regards the work accomplished during the year, time only will permit of judgment; but with regard to the two essential conditions in the life of every association, namely, membership and finances, the Society is to be congratulated on a state of affairs more satisfactory than has been the privilege of Council to report for very many years.

Member List.

Our number of Ordinary Members now stands at 311, which is higher than in any year since 1887.

44 Ordinary Members have been elected, but we have at the same time lost 34, namely, 9 by withdrawal, 5 by death, 4 by removal under Rule 9, 14 by removal under Rule 38 and 2 by removal under Rule 40. At the close of the year there were also 7 gentlemen's names before the Society as candidates for membership. According to the operation of Rule 5 it sometimes takes nearly two full months between the date of application and the election of a member, which is sometimes an inconvenient amount of delay. As the main loss has been due to the removal of names of members who have been in arrears for some years, the actual change of membership is more satisfactory than appears in the tabular comparison of the last with the previous six years.

The following table gives the statistics for the last six years:—

YEAR.	PAYING.				NON-PAYING.				GRAND TOTAL.
	Resident.	Non-Resident.	Foreign.	Total.	Life.	Absent.	Special Non-Subscribing.	Total.	
1895	108	122	12	242	23	31	1	55	297
1896	105	119	11	235	23	35	1	59	294
1897	106	115	9	230	22	35	1	58	288
1898	122	108	11	241	23	35	1	59	300
1899	120	119	13	252	21	27	1	49	301
1900	116	124	18	258	22	30	1	53	311

The names of the Ordinary Members whose death we regret are, Dr. John Anderson, F.R.S., Babu Aghore Chandra Bhaduri, H.R.H. The Duke of Edinburgh, Babu Rajani Kanta Gupta and Babu Guru Prasad Sen.

We have to lament also the death of a very distinguished Honorary Member, Professor The Right Hou. F. Max Müller.

The lists of Special Honorary Centenary Members, Corresponding Members and Associate Members continue unaltered from last year, their numbers standing at 4, 1 and 12 respectively.

During the year two members, Sayid Ali Bilgrani, A.R.S.M., LL.B., F.G.S., and Mr. J. W. A. Grieve compounded for their future subscriptions.

Indian Museum.

Mr. R. D. Oldham ceased to be a Trustee under section 3, clause 5, of the Indian Museum Act IV of 1887 and was succeeded by Mr. T. H. Holland. The other Trustees who represent the Society are Mr. A. Pedler, F.R.S., Dr. Mahendralal Sircar, C.I.E., Mr. G. W. Kuchler, M.A., and The Most Revd. Archbishop P. Goethals, S.J.

Finance.

The Accounts of the Society are shown in Statement No. 1 in the appendix under the usual heads.

Statement No. 8 contains the Balance Sheet of the Society and of the different Funds administered through it.

The Budget Estimate for 1900 was taken at the following figures :—Receipts Rs. 16,730-0-0; Expenditure 16,078-0-0. The actual results were found to be:—Receipts Rs. 20,530-5-3; Expenditure Rs. 12,790-7-10.

The receipts thus show an excess of Rs. 3,800-5-3, while the expenditure shows a saving of Rs. 3,287-8-3 on the Budget Estimate. In addition to this an unusually large sum, Rs. 1,700, has been added to the Reserve Fund on account of the exceptional number of entrance fees paid during the year.

There is an increase in Receipts under the heads of *Subscriptions*, *Sale of Publications* and *Government Allowances*. *Subscriptions* were estimated at Rs. 7,000 while the actuals were Rs. 8,852-1-6, the excess being due to some of the arrear subscriptions from members having been realized. Owing partly to the sale of the Society's *Journal, Part I, Extra No. 2 of 1899* (Dr. M. A. Stein's Memoir on Maps illustrating the Ancient Geography of Kashmir) *Sale of Publications* shows an increase of Rs. 237-15-6. During the year, two years' contribution by the

Assam Government towards our Anthropological publications were received, and there is thus an increase of Rs. 2,000.

On the Expenditure side the items of *Lighting, Municipal Taxes, Meetings, Books, Journal Part II* and *Printing Circulars*, show an excess. Owing to the settlement of some old outstanding gas-bills *Lighting* shows an increase of Rs. 15. *Municipal Taxes* were estimated at Rs. 846, while the actuals have been Rs. 884-4. This was due to the increased valuation of the Society's premises and the increased assessment. Charges for *Meetings* show a slight excess of Rs. 6-13 due to advertisement charges for the Simla Meeting. Owing to the adjustment of certain old bills from Messrs. R. Friedländer & Sohn, for supplying publications to the Society the account for new *Books* shows a slight increase of Rs. 35-2-2. *Journal, Part II*, has exceeded the budget by Rs. 172-7. This is due to the payment of printing charges for certain numbers of 1899. During the last year a number of circulars were printed in connection with the proposed reorganization of the Society and thus there is an excess of expenditure of Rs. 36-6 under the head *Printing Circulars*.

There were three extraordinary items of expenditure during 1900, under the heads of *Furniture, Royal Society's Catalogue* and *Catalogue of Coins* not provided for in the Budget. Rs. 265-10 was spent in cleaning and renovating certain pictures belonging to the Society, and the cost of a platform for the Society's Meetings. The expenditure on the *Royal Society's Catalogue* has been Rs. 382-13. The balance of Rs. 362-8 for cataloguing the Society's coins by the late Mr. C. J. Rodgers was paid to Mrs. Rodgers. Out of Rs. 1,000 budgetted for the Society's Library Catalogue, Rs. 100 has been paid to Mr. H. B. Perie, the compiler, on account. Owing to extra work involved, it may be necessary to enhance the compiler's remuneration to possibly Rs. 1,300, and the balance, Rs. 1,200, has consequently been budgetted for as an extraordinary expenditure. Besides, Rs. 6,000 has been budgetted for *Repairs* to the Society's premises under the same head. To meet this expenditure permission has been given to draw Rs. 10,000 from the Reserve Fund; but the savings of the past year will to a great extent meet this call without trespassing on the Reserve Fund.

The Budget Estimate of probable ordinary Receipts and Expenditure for 1901 has been fixed as follows:—Receipts Rs. 17,430; Expenditure Rs. 16,126-4. On the receipt side *Government Allowances* have been increased by Rs. 1,000, being contribution due from the Assam Government for our Anthropological publications. The item *Miscellaneous receipts* is based upon the actuals of the last year.

On the expenditure side, the estimate under the head of *Salaries*

has been increased by Rs. 363-7 owing to certain increments sanctioned to the office staff. *Municipal Taxes* and *Meetings* have also been slightly increased. A sum of Rs. 15 has been allotted for *Registration fee* for 1900 and 1901, covering the fee for filing a copy of the Society's revised rules.

BUDGET ESTIMATE FOR 1901.

	Receipts.								
	1900.			1900.			1901.		
	Estimate.	Actuals.	Estimate.	Actuals.	Estimate.				
Subscriptions ... Rs.	7,000	0 0	8,852	1 6	7,000	0 0			
Sale of Publications ...	600	0 0	837	15 6	600	0 0			
Interest on Investments	5,500	0 0	5,530	0 0	5,530	0 0			
Rent of Rooms ...	1,200	0 0	1,200	0 0	1,200	0 0			
Government Allowances	2,000	0 0	4,000	0 0	3,000	0 0			
Miscellaneous ...	400	0 0	110	4 3	100	0 0			
Total Rs.	16,730	0 0	20,530	5 3	17,430	0 0			

Expenditure.								
Salaries ...	Rs.	3,600	0 0	3,436	9 0	3,800	0 0	
Commission ...		425	0 0	416	10 9	425	0 0	
Pension ...		52	0 0	52	0 0	52	0 0	
Stationery ...		120	0 0	113	5 6	120	0 0	
Lighting ...		60	0 0	75	0 0	60	0 0	
Municipal Taxes ...		846	0 0	884	4 0	884	4 0	
Postage ...		550	0 0	445	2 0	550	0 0	
Freight ...		70	0 0	32	8 6	60	0 0	
Meetings ...		50	0 0	56	13 0	60	0 0	
Contingencies ...		300	0 0	295	5 11	300	0 0	
Books ...		1,500	0 0	1,535	2 2	1,500	0 0	
Binding ...		750	0 0	495	4 0	750	0 0	
<i>Journal</i> , Part I. ...		2,100	0 0	346	14 0	2,100	0 0	
" " II. ...		2,100	0 0	2,272	7 0	2,100	0 0	
" " III. ...		2,000	0 0	1,275	8 0	2,000	0 0	
<i>Proceedings</i> ...		1,000	0 0	652	1 0	1,000	0 0	
Printing Circulars, &c.		200	0 0	236	6 0	200	0 0	
Registration Fee ...		5	0 0	.....		15	0 0
Auditors' Fee ...		100	0 0	100	0 0	100	0 0	
Petty Repairs ...		250	0 0	69	3 0	50	0 0	
Total Rs.		16,078	0 0	12,790	7 10	16,126	4 0	

Extraordinary Expenditure.

Library Catalogue ...	Rs. 1,000 0 0	100 0 0	1,200 0 0
Repairs ...	.....	.....	6,000 0 0
Furniture ...	.....	265 10 0	.....
Royal Society's Catalogue	.....	382 13 0	.....
Catalogue of Coins ...	.....	362 8 0	.....
Total Rs.	1,000 0 0	1,110 15 0	7,200 0 0

Agencies.

Our London Agency is still in the hands of Messrs. Luzac & Co., and though we have not yet received a detailed account from them, we have remitted £60 on account. The value of the publications sent to them during the year amounts to £24 representing 300 numbers of the *Journal and Proceedings* and Rs. 350-14 representing 503 components of the *Bibliotheca Indica*. From them we have received books and papers of the value of £39-19-2.

Our Continental Agent is Mr. Otto Harrassowitz to whom we have sent publications valued at £27-14 and Rs. 282-6 of which £18-10-10 and Rs. 149-11-10 have been recovered by sales.

Library.

The total number of volumes or parts of volumes added to the Library during the year was 2,328, of which 705 were purchased and 1,623 presented or received in exchange for the Society's publications.

In consequence of enquiries made by the Government of Bengal, the General Secretary examined the records of the Society for the purpose of ascertaining the exact terms under which the valuable collection of manuscripts and books were transferred to the Society on the break-up of the Fort William College Library in 1836. As it required some considerable time to trace the history of the transaction, it will probably be of use to the members to record briefly a summary of the facts so far as obtainable:—The Asiatic Society having learnt that it was the intention of Government to transfer the major part of the Library of the College of Fort William to the Curators of the Calcutta Public Library, wrote to Government on the 8th (? 6th) of February, 1836, offering accommodation for the remainder, namely, the oriental works in the Fort William College Library; and, on condition that Government gave assistance towards the staff necessary to keep the collection in order, agreed (1) to provide for the accessibility of the books to students whether or not members of the Society, and (2) to

recognize the Government's proprietary right to the volumes in question.

On the 24th February, 1836, Mr. Secretary H. T. Prinsep wrote to the Society to state "that the Governor of Bengal accepts the offer of the Asiatic Society to provide rooms for the accommodation of, and to hold accessible to the public, the oriental portion of the late Library of the College of Fort William, and has ordered the books to be made over on the following conditions:—The books are to be the property of the Government until the Honourable Court of Directors shall decide whether they shall be made over absolutely or not, the Society to be ruled of course by their decision. The Government to allow the Asiatic Society a monthly sum of Rs. 78 (stated by the the Secretary of the College to be the minimum expense for custody of the books), in consideration of the Society providing for establishment and keeping the books clean and in proper repair. All other charges to be provided by the Society. The above allowance to cease, in case of the property in the books being made over to the Society."

Arrangements were made consequently for the reception of the books by this Society, and our Secretary was requested to take measures for receiving the books and granting receipts for the same in the course of their daily transfer, which took place during the month of March, 1836. On the 6th of April the Secretary of the Society announced that he had received 1,130 Sanskrit and 2,676 Arabic and Persian volumes from the Fort William College; but the only catalogue then in existence was that which had been prepared by the College officers, and which, having been checked by the Secretary of the Society, was returned to Captain Ouselay, Secretary to the College of Fort William, with a covering letter, dated 18th April, 1836. The Secretary of Government was informed of this transaction in a letter from the Secretary of the Society, dated 4th June, 1836, which was acknowledged by Government letter No. 836 of the 15th June, 1836.

Subsequently the Court of Directors, through the Government, requested the Society to send them the duplicates of the manuscript works which were previously in the possession of the Society, and the Secretary of the Society consequently selected and packed, for transmission to the Court of Directors, the duplicates of the Sanskrit, Arabic and Persian manuscripts transferred from the College Library. The Secretary of the Society in advising the despatch of the three cases of these manuscripts in a letter to the Secretary, Government of India, dated 7th April, 1837, transmitted also a catalogue of the duplicate manuscripts pointing out at the same time that the general catalogue of late

College Library was already in the possession of Government. In 1838 complete catalogues of the manuscripts in the Society's Library were prepared and printed, but they included the works previously in the possession of the Society as well as those obtained from the College of Fort William, and no mark was made in these catalogues to distinguish the former from the latter collection.

The whole of the above transactions had reference to the transfer of manuscript books from the College to this Society. But at about the same time the Society, having learnt that a number of *printed* oriental books had been transferred from the College Library to the Calcutta Public Library, approached the Curators of the latter institution for the purpose of securing the transfer of such printed books to this Society, and the transfer having received the sanction of Government, the books, to the number of about 300, were transferred; and the list of them forwarded by the Deputy Librarian of the Public Library having been checked, signed and receipted by the Secretary, was returned to the Curators of the Public Library with a covering letter dated 27th July, 1836. These books were received by the Asiatic Society on terms precisely similar to those already agreed to in connection with the manuscript works, and the Society continued to receive the Government grant of Rs. 78 per month until August, 1846, when the Court of Directors approved of the transfer of the whole collection of books to the Asiatic Society and the monthly grant of 78 Rupees, allowed by Government for the custody of the books, was withdrawn. The books and manuscripts have ever since been maintained in order at the expense of our members.

The compilation of a new edition of the Society's Library Catalogue having been completed, the Council referred the manuscript to a Sub-Committee composed of Major A. Alcock, Dr. T. Bloch, Mahāmahopādhyāya Haraprasad Shastri, Mr. S. C. Hill and Mr. T. H. Holland to make a detailed inspection of the work before printing. The Sub-Committee has not yet completed its task.

On the recommendation of the two Philological Secretaries, Babu Charu Chandra Bhattacharya was appointed Pandit for the Oriental Library in the place of late Pandit Annada Prasad Sarasvati, deceased.

Proposed Reorganization of the Society.

At the instance of Col. T. H. Hendley, I.M.S., C.I.E., the following five proposals were laid before the Council Meeting of March 28th.

1. That two of the monthly meetings of the Society, *viz.*, on the

first Wednesdays in September and October (on which days no meetings are held in Calcutta) should be held in Simla.

2. That these meetings should for the present be ordinarily devoted to the reading of papers, the general business of the Society being conducted as usual in Calcutta.

3. That Rule 1 of the Society, which shows that almost all branches of knowledge relating to the Eastern Hemisphere were included in its original operations, should be interpreted in its widest sense, and that papers and discussions should therefore be welcomed on such subjects as Indian Art, Forestry, Horticulture, &c., which have lately been either ignored or have been dealt with elsewhere.

4. That in order to make the Journals more popular and interesting to the general public, they should appear regularly and contain extracts from, and abridgments of, current literature.

5. That if these suggestions are approved they should be brought before the next monthly meeting of the Society and a Sub-Committee be then appointed to give practical effect to them.

The first two proposals were carried, but the discussion on the rest opened wider questions, and the following Committee was appointed to consider them:—Col. T. H. Hendley, C.I.E., I.M.S., A. Pedler, Esq., F.R.S., F. E. Pargiter, Esq., I.C.S., T. H. Holland, Esq., F.G.S., with subsequent addition of Major A. Alcock, I.M.S., L. de Nicéville, Esq., and Mahāmahopādhyāya Haraprasad Shastri. As a result of the deliberations of this Committee and subsequent discussion in Council, it was decided to submit a scheme for the reorganization of the Society to the general body of Ordinary Members. The scheme, outlined by 9 definite proposals, was discussed at the General Meeting of the 5th December, and afterwards circulated in the usual way to the members, whose votes will be counted at the Annual General Meeting to be held in February next.

Repair of Premises.

At the request of the Council, Mr. E. Thornton kindly made a survey of the Society's premises and submitted a report to Council. The Council having agreed with Mr. Thornton as to the necessity of immediate repairs, appointed a Sub-Committee consisting of Major A. Alcock, Mr. C. L. Griesbach, Mr. E. Thornton, Mr. W. K. Dods and Mr. T. H. Holland to determine the details more urgently necessary, and to discuss the question of establishing a permanent Repairs Fund for future contingencies. The Committee having submitted a report the Council laid the question before a General Meeting and at the same time requested permission to withdraw Rs. 10,000 from the Permanent Reserve

Fund for present repairs and for the purpose of starting the proposed "Repairs Fund." The proposal was submitted to the whole body of ordinary members under rules 64(c), 64A and 65 and the votes recorded were 111 "for" and 1 "against" the proposals. Messrs. Martin & Co. submitted an estimate for repairing the Society's premises, which was accepted as revised by the Repairs Committee, Rs. 6,000 being assigned, and the work, which was taken up at once, has now made considerable progress.

On account of the marked improvement made in the financial position of the Society during the past year, the Council thinks the scheme for a Repairs Fund can this year be definitely shaped, and that we shall be in a position to devote the amount, Rs. 1,200, now received annually as rent for rooms leased to the Photographic Society, towards keeping the premises in an efficient state of repair. The Council takes this opportunity of thanking Mr. Thornton for his assistance and advice.

On a report of an inspection of the Society's pictures kindly made by Mr. E. B. Havell, and the Honorary General Secretary, Council ordered the picture of a "Ghat at Benares" and the portraits of D. J. Patterson, F. Stoliczka and Dwarkanath Tagore to be repaired and varnished at a cost of Rs. 97.

Exchange of Publications.

During the last year, the Council accepted four applications for exchange of publications with other Societies, *viz.*, (1) from the Naturhistorische Gesellschaft, Nürnberg, the Society's *Journal, Parts II and III*, being exchanged for their *Abhandlungen*, (2) from the Illinois State Laboratory of Natural History, the Society's *Journal, Part II*, and *Proceedings* being exchanged for its *Bulletin*, (3) from the Berliner Entomologischer Verein, the Society's *Journal, Part II*, being exchanged for their *Journal*, (4) from the Seminar für Orientalische Sprachen, Berlin, the Society's *Journal, Part I*, and *Proceedings* being exchanged for its *Mittheilungen*.

Secretaries and Treasurer.

There were two changes among the officers of the Society. Mr. F. Finn resigned the office of Natural History Secretary in February and Mr. L. de Nicéville was appointed. Lieut.-Col. L. A. Waddell requested to be relieved of the duties of Anthropological Secretary on his transfer from Calcutta, and Mr. F. E. Pargiter, I.C.S., kindly consented to undertake the work of editing *Journal, Part III*. The

unavoidable interruption in the publication, of this part of the *Journal* will, it is hoped, not be repeated in future, and the Editor has now in the press a series of papers which it is anticipated will fulfil our obligations to the Local Governments which have generously guaranteed a grant for publishing papers on Anthropology.

The duties of the Philological Secretary have been shared during the year by Dr. T. Bloch, in charge of *Journal, Part I*, and the Coins, and Mahamahopadhyaya Haraprasad Shastri in charge of the *Bibliotheca Indica* and the work of collecting Sanskrit and Vernacular Manuscripts.

The office of General Secretary has been held throughout the year by Mr. T. H. Holland, whilst the Society is indebted to Mr. W. K. Dods for continuing the duties of Treasurer during the period under report.

Publications.

There were published during the year ten numbers of the *Proceedings* (Nos. 10 & 11 of 1899 and Nos. 1-10 of 1900), containing 160 pages of letter-press; one number of the *Journal, Part I* (No. 1 of 1900), containing 92 pages of letter-press; four numbers of the *Journal, Part II* (No. 4 of 1899 and Nos. 1-3 of 1900), containing 580 pages of letter-press and a plate of 1898. There were also published a catalogue of the Society's Sanskrit books and MSS., Part II, and the Index to *Journal, Part II* for 1899.

Journal, Part I.

Of the first part of the Society's *Journal* only two numbers have been published during the past year, each of about a hundred pages. Of these, No. 1 was issued in August last, and No. 2 is just being printed off and will shortly be published.

It is in keeping with the traditions of our Society that of the papers published during the last year, not less than five deal with inscriptions. Of these inscriptions, three are published for the first time, while the remaining two are second and improved editions of documents already known. The first paper to be noticed is an edition by Babu Nagendrannath Vasu of a new copper-plate inscription of Madanapāla the original of which was presented to our Society by Mr. N. K. Bose, C.S., and exhibited to the Society at its Annual Meeting in 1899. The plate was found in the Dinajpur District, the old stronghold of the Pāla Kings of Bihar and Western Bengal. It gives us a long list of kings belonging to this dynasty, not less than seventeen, down to Madanapāla, who must have lived somewhere near the beginning of the 12th century A.D. It was a happy coincidence that some of the names of these kings, all previously unknown to us, were

found at the same time in an interesting literary work, the discovery of which is due to Mahamahopadhyaya Haraprasad Shastri. This work is called *Rāmacaritam* and is a poem of double meaning, each verse being applicable both to the history of the mythical hero Rāma and also to the historical kings Rāmapāla and his predecessors. Its value lies in this that it is the first historical poem found in Eastern India, being of the same class as the biography of Harṣa of Kanauj by Bana, the history of the Paramāra king Navasāhasānka of Malwa, and the poem written by Bilhaṇa, a Kashmiri pandit, in honour of the Calukya king Vikramāditya, all of which come from the West. It is hoped that the learned discoverer will soon find leisure to publish this most valuable find of his.

The copper-plate of Madanapāla which has just been referred to is interesting also from a sociological point of view. We know that all the Pāla Kings were followers of the Buddhist religion and that it was during their reign that Buddhism flourished for the last time in India. Now, the grant recorded in the plate was made by Madanapāla to a Brahman as a *dakṣhiṇā* or honorarium for having read the Mahābhārata to the queens of the king's harem. This is one more fact, in addition to others previously known, showing the intimate connexion that existed in the time of those Buddhist kings between Buddhism and Hinduism, a connexion that resulted in the former losing more and more its ground against the latter, and that thus prepared the way for the final destruction of Buddhism by the Muhammadan invaders.

During the last decades of the reigns of the Pāla kings, there rose to power in Bengal another family of Hindu princes who came from the South and were Kṣatriyas of the Lunar race, the Sena kings. Of them Lakṣmaṇasena, the great friend of poets, still lives in the memory of the people. Of him, too, a new copper-plate inscription was published in the Journal of last year by Babu Akshay Kumar Maitra. It is interesting as a document coming from this famous king, but does not add much new information to what we already know with regard to his period and history. The third inscription belongs to a king Jayāditya who lived in the 9th century A.D. Its discovery is due to Dr. Hoey; and it has been published by Dr. Bloch in an Appendix to a paper by Dr. Hoey, which is referred to below. The plate was found in the Gorakhpur District, and to the north of this district we have to look for the dominion of this king, as in an inscription of his father—the only other document of this dynasty known to us—his capital, Vijayanagara, is described as situated on the slopes of the Himalayas. As with other dynasties of Indian kings, scarcely more than the names of the kings of this dynasty are known to

us, and we must await further discoveries before we can say anything with regard to their history, the extent of their dominions, and their relations with other contemporary rulers.

With regard to these matters the case stands much better in Orissa. There from the time of the conquest of that country by the Gaṅga kings, who came from the south, history begins to dawn, and a complete series of historical data is known to us both from inscriptions and other sources. Babu Mano Mohan Chakravartti, who, having been stationed in Orissa for some years, has made this part of Indian history his special study, has again in the Journal of last year contributed a new and valuable addition to our knowledge of Orissan history in a paper in which he publishes a long inscription of Kapilendra Deva, one of the Orissa kings—by the way, the earliest known specimen of writing in modern Uriya character—and in which he deals with the chronology of the last rulers of that country up to Mukunda Deva who was overthrown by Kalapahar, the general of the Afghan king Sulaiman. The same learned author, when stationed at Gaya, took the opportunity to procure a good copy of an inscription at the KṛṣṇaDvārikā temple there, and has contributed his reading and translation of the same to our Journal. The inscription refers itself to the time of Nayapāla, one of the predecessors of Madanapāla who is referred to above. It has now been read completely, while previous editors were able to decipher only portions of it.

More general questions touching on Epigraphy and Palæography are dealt with in a paper by Dr. Hoernle which was read before the Society as long ago as 1898. Dr. Hoernle has made a searching inquiry into the various writing materials used in India, *viz.*, Palm-leaf, Birch-bark, and Paper, and it led him to certain conclusions as to the localities and times in which these materials were in use. From this he proceeds further. It is now generally accepted that the ancient Indian alphabet, as we find it first in the inscriptions of Aśoka, was borrowed from the Phœnicians. The date fixed for this is approximately the 8th century B.C. Now, as certain changes, which the Phœnician letters had to undergo when taken over by the Indians, are best explained if we suppose that they were adapted to a writing material such as palm-leaf, and, moreover, as we know the palm-tree, the leaves of which were used for writing purposes, is indigenous in Southern India, Dr. Hoernle concludes that it was the South, and not the North, of India, where the Phœnician alphabet first came into use. There certainly existed an ancient trade through the Arabian Sea between Phœnicia and Southern India, witnesses of which are some words of Dravidian origin that crept into the ancient languages of Western Asia

at an early date, and Dr. Hoernle's theory is in keeping with this fact and contributes to it some additional strength.

The paper by Dr. Hoey mentioned above takes us into another department, the ancient Geography of India. Dr. Hoey tries to fix the sites of some places famous to us from Buddha's history, especially Vesali and the place where Buddha entered Nirvāṇa, Kusinara. He believes he has found those sites in the modern districts of Chupra and Saran. The latter place, Kusinara, he identifies with a locality now called Sewan in the Saran District. This would lead us much further south than where Kusinara is now generally searched for. After the identification of the true site of Buddha's birthplace, Kapilavastu, by the help of the Aśoka pillar discovered in 1896 near Paderia in the Nepalese Terai, it is now generally believed, on the strength of the directions given in the Chinese itineraries, that Kusinara will be found in the Terai somewhere to the north of the modern district of Champaran, but we must await further discoveries before the point can be definitely settled, and we have to thank Dr. Hoey, who has rendered many valuable services to Indian Archæology, for having given the discussion a new start.

Of the last four papers to be mentioned two are devoted to the later Muḥammadan period of Indian History, while the other two deal with the non-Aryan languages of India. The first is by Mr. Irvine, the great authority on the history of the later Mughal Emperors. It is an edition and translation of a Hindī poem composed by a Brahman of Allahabad, by name Śrīdhār Murlidhar, describing the struggle between Farrukhsiyar and the other pretenders to the Mughal throne that ended in the success of the former. Mr. Beveridge has contributed a short note on the tomb of Badaoni, the famous historian of Akbar, which he was successful in discovering when he visited Badaon in December 1899. The tomb was pointed out to him near the village of Atapur, but it is a plain tomb, without any inscription, and only tradition still preserves the memory of it.

To the knowledge of the non-Aryan languages of India, the Revd. H. Francke, a Moravian Missionary at Leh in Ladakh, has contributed an interesting collection of Tibetan proverbs obtained by him in Ladakh, which are of value, not only to the student of folk-lore, but also to the linguist, being, specimens of a little known dialect of the Tibetan language. Lastly, mention should be made of a paper contributed by the Revd. F. Hahn, a German Lutheran Missionary at Lohardagga, on the language of the Asurs. They are a small aboriginal tribe in Chutia Nagpur, consisting of not more than 2,500 persons, and speaking a language of their own. He has also contributed, in

the introduction to his paper, an interesting note on their social habits and religious beliefs.

Journal, Part II.

Four parts containing over 500 pages of the Journal, Vol. lxxix, Part II, which is devoted to Natural Science, were issued during the current year. They comprise nineteen papers, and fully sustain the high scientific value of the Journal of the Society.

The first paper of 87 pages is No. 11 of Sir George King's "Materials for a Flora of the Malayan Peninsula," and contains an account of the order *Melastomaceæ*. One genus, *Sonerila*, has been written by Dr. O. Stapf, First Assistant in the Royal Herbarium, Kew. The sub-orders *Melastomææ*, *Astroniceæ* and *Memecyleæ* are characterised. No new genera, but 61 new species and 11 new varieties are described. All the previously described species in the orders are re-described by Messrs. King and Stapf, the paper thus forming a complete monograph of the order.

With No. 2 was issued a coloured plate of certain larvæ and pupæ of butterflies, from the Ké Archipelago, to illustrate Mr. de Nicéville's paper on the butterflies of those islands published in Vol. lxxvii, Part II, of the Journal for 1898.

The second paper by Mr. W. P. Masson deals with four rare mammals occurring in the neighbourhood of Darjeeling.

The third paper is by Babu Promothonath Dutt, and is entitled "On a new method of treating the properties of the circle and analogous matters," and is illustrated by five woodcuts in the text.

The fourth paper is a "Note on a method of detecting free Phosphorus" by Professor P. Mukerji, who gives an account of the apparatus used and the method of carrying out the test.

In the fifth paper Captain H. J. Walton, I.M.S., records the occurrence of the Desert Rose-Finch (*Rhodospiza obsoleta*, Licht.) in the Tochi Valley, which is the first record of the occurrence of this bird within the limits of the Indian empire.

In the sixth paper Col. C. T. Bingham and Mr. H. N. Thompson give a list with copious and very interesting notes of the Birds collected and observed in the Southern Shan States of Upper Burma. Three hundred and one species are catalogued. No new species are described.

The seventh paper is by Mr. F. Finn, and is devoted to re-describing the form of Cormorant inhabiting the Crozette Islands. The bird was first described by Mr. Blyth in our Journal, and the type specimen is still in the collection of the Indian Museum, Calcutta. Mr.

Finn points out that if the species is a distinct one it will stand as *Phalacrocorax melanogenys* (Blyth).

In the next paper Mr. Finn in conjunction with Lieut. H. H. Turner gives a note on two rare Indian pheasants from the Chin Hills of Upper Burma.

In the ninth paper Mr. Finn records "Notes on the Structure and Function of the Tracheal Bulb in male *Anatidæ*." He describes the structure of the trachea in four drakes, and the sound made by both sexes of nine species of ducks.

In the tenth paper Mr. Lionel de Nicéville records a "Note on *Calinaga*, an aberrant genus of Asiatic Butterflies." Different structural characters are described, and notes on the geographical distribution of the five known species are added. He thinks it probable that the genus should be placed in the family *Nymphalidæ*, and in the subfamily *Danaïnæ*, near the genus *Radena*.

The eleventh paper is by Captain H. J. Walton, who gives copious notes on 157 species of birds collected or observed by him in Kumaon in the months of April to July.

Major D. Prain in the twelfth paper describes twelve new plants from Eastern India, and in the thirteenth gives a list of the Asiatic species of *Ormosia*. A key to these plants is given, also a table of distribution of the South-Eastern-Asiatic species of the genus, 22 in all.

The fourteenth paper is by Mr. Lionel de Nicéville, and consists of a list of the known food-plants of the butterflies of the Kanara District of Southern India, and a revision of the species of butterflies there occurring. In part I, 194 species of plants are named, and the names of the butterflies which feed on them in the larval state are given under each. In part II, 245 species of butterflies known to occur in Kanara are listed, with the plants noted under each name on which their larvae feed. This is the first time such lists have ever been published out of America, and should prove of interest both to the botanist and to the entomologist. Incidentally a list of the butterflies of the family *Lycænidæ* is given which in the larval or pupal stages or both are attended by ants, 27 species of butterflies in all. Descriptions are also given for the first time of the transformations of many of the butterflies. Similar lists are given of a few butterflies and their food-plants from the Western Himalayas and Kashmir.

In the fifteenth paper the editor of this part of the Journal gives a note on the synonymy of the avian genus *Harpactes*, Swainson, which name, being pre-occupied, will have to fall before *Pyrotrogon*, Bonaparte, when used for birds.

The sixteenth paper of 177 pages by Major A. Alcock entitled

“Materials for a Carcinological Fauna of India, No. 6. The *Brachyura Catometopa*, or *Grapsoidæ*.” The paper, like its predecessors, not only contains descriptions of all the families, genera, and species of Indian *Catometopa*, but is also a systematic monograph of the genera of the entire group. The *Catometopa* are here divided into nine families, all of which are newly characterized, and among them the *Palicidæ*, the systematic position of which has long puzzled carcinologists, are included. 136 species are described, 31 of which are new to science: they fall into 55 genera, of which 3 are new. The large number of new species is probably explained by the fact that the paper covers the large collections of the R.I.M. Survey Ship “Investigator”—collections made for the most part in depths that lie outside the reach of ordinary collectors. By the publication of this paper the total number of species of Brachyurous Crustacea recorded for the Indian region is raised to 606, exclusive of the freshwater *Telphusidæ*.

The seventeenth paper by Captain L. Rogers, M.D., I.M.S., is a very important one, and is entitled “The relationship of the water-supply, water-logging, and the distribution of *Anopheles* Mosquitos respectively, to the prevalence of Malaria north of Calcutta” This paper is illustrated by a map, which unfortunately is not ready, but will be issued with a subsequent number of the Journal. The conclusions Dr. Rogers arrives at are that the quality of the water drunk by the people has chiefly to do with the prevalence of malaria in them, and that in India at any rate mosquitos by their bites or stings are not the prime cause of malaria, though they may play a part by taking the malarial parasite back from their human hosts to the water drunk by the people, but that a good water-supply is an important prophylactic measure in lessening the prevalence of malaria.

Dr. P. C. Ray contributes the eighteenth paper, “Further Researches on Mercurous Nitrite and its Derivatives,” and “On Mercurous Iodide and a new Method of its Preparation.” A woodcut is given of the apparatus used for the first of these experiments.

The nineteenth and last paper is by Mr. J. S. Gamble and Major D. Prain, and describes a new genus and species of plant of the Western Himalayas of the order *Orobanchaceæ*, the genus being named *Gleadovia* after the first finder of it, Mr. F. Gleadow.

Journal, Part III.

The number of papers read in the Anthropological Section during the year was three, and they were on—“The Coorgs and Yeruvas, an ethnological contrast” by Mr. T. H. Holland, ‘The Vślamā Caste in Bernar’ by Captain Wolseley Haig, and ‘Ancient Stone implements in

the Santāl Parganas' by Rev. P. O. Boddling. The first was read at the January meeting, and the two others at that in November.

In the first paper Mr. Holland gives details of measurements made on the two largest tribes in the province of Coorg, and compares them with previously published results for other tribes in South India. The Yeruvās, like the Kurumbās, Irulas, Paniyās and other aboriginal tribes, are thick-lipped, wavy-haired, black-skinned, platyrrhine and short of stature. The Coorgs, on the contrary, stand out amongst the people of South India by reason of their comparatively fair skin, great stature (168·5 cm.), mesorrhine (72·1) nose, sub-brachycephalic cranium (79·9) and in many physical characters generally presented by races of the so-called higher types. The much disputed question of Coorg caste is discussed, and, assuming the Brahmans of South India to represent the highest caste, that is, to lay claim to the purest Aryan relationship, the Author recommends the Coorgs to follow Mr. Richter's advice and despise all notions of caste.

In the second paper Captain Haig describes a caste, which is numerous in the north-eastern districts of the Madras Presidency and in the Nizām's Dominions, and has spread into Berar, and which, though agricultural now, claims a war-like ancestry.

Mr. Boddling narrates in his paper how he chanced to discover the existence of ancient stone implements among the Santāls under the name of 'thunderbolts.' They believe that such stones fall from the sky with lightning and attribute great medicinal virtues to them. He describes with the aid of plates the stones which he has succeeded in collecting and explains their supposed virtues. His discovery is interesting in that it furnishes a ready clue towards finding similar articles elsewhere, by enquiring simply about 'thunder-bolts.'

The publication in the Anthropological or Third part of the *Journal* for the year 1900 will be that of one paper, Col. Waddell's 'Wild Tribes of the Brahma-putra Valley.' It was read at the November meeting in 1899, but there has been a most regrettable delay in issuing it, for, when the paper was being printed, the Author was ordered away to join the expedition to China during the middle of the year and has been absent ever since, and the publication has been greatly impeded. It is hoped, however, that he will be able to finish it soon. The paper gives a description of the tribes, their divisions, manners, customs and religious ideas, and also copious anthropometrical information; and it will be embellished with a large number of photographic illustrations.

The difficulty which has attended this paper has delayed other papers, but they will be issued early during the present year.

Coins.

During the last year the Society has been presented with 30 new coins. Of these, 15 are small pieces of lead, with hardly any mark on them, so that one is led to question their nature as coins. The Society possesses already a large number of similar pieces. One gold coin is a so-called *padmaṅkā* (because it is shaped like a lotus). It has been attributed to the Kādamba kings of the North-Western Dekhan and Northern Mysore, of about the 5th or 6th century A.D., but the shape of some Nāgarī characters occurring on it leads one to put it down to a considerably later period. From Southern India also came 8 small gold coins, so-called *fanams*, presented to us by Lieut.-Col. Bain. It is difficult to say to which dynasty or period they belong, and very little is known about them. Lastly, we have received 6 Muḥammadan coins, viz., 1 each of Alāuddīn Khiljī and Ghiyasuddin Tughlaq and 2 of Muḥammad ibn Tughlaq, all Delhi Emperors of the 13th and 14th centuries A.D., and one rupee each of the Mughal Emperors Muḥammad Shāh and Shāh Ālam, the former being from the Surat Mint.

Bibliotheca Indica.

Twenty fasciculi have been published during the course of the year at a cost of Rs. 8,780-4-9. Of this sum the printing charges amount to Rs. 5,380-12-9 and the editing charges to Rs. 3,899-8-0, the average cost of publishing each fasciculus being Rs. 489. Of these twenty fasciculi, one is in the Tibetan and nineteen in the Sanskrit Series; none is in the Arabic-Persian series. The following is a descriptive catalogue of the works which have been either commenced or finished during the year.

WORKS THAT HAVE COME TO A CLOSE.

TIBETAN SERIES.

Sher Phyin is a literal translation of the *Çatasāhasrikā Prajñāpāramitā* in Tibetan. *Prajñāpāramitā* is the great work of the Mahāyāna School. Nāgārjuna the great preacher of Mahāyāna, who flourished in the second century of the Christian Era is said to have brought the *Prajñāpāramitā* from the nether regions. It has several recensions of various extent. One is called the *Svalpākṣarā*, a recension in a few words very recently discovered in Nepāl. The second is in seven hundred *çlokas* known as *Saptaçatikā Prajñāpāramitā*. The third is *Açtasāhasrikā Prajñāpāramitā* in 8,000 *çlokas*. This has already been published in this series. The fourth is *Pañcaviṅçatisāhasrikā Prajñāpāramitā* in 25,000 *çlokas*. The fifth and the largest is the *Çatasāhasrikā*

Prajñāpāramitā, and of this the work published is a Tibetan translation. The work has been edited by Babu Pratāpacandra Ghoṣa, a gentleman whose connexion with the Society began in the early sixties. He has successfully brought the difficult and arduous work he had undertaken to a successful close, and the credit of editing and publishing the largest work in Tibetan belongs to him. This is perhaps the first time that a Tibetan work on Buddhism has been published in its entirety.

SANSKRIT SERIES.

Tattvacintāmaṇi, the great work of the Amalgamated Nyāya-vaīṣeṣika School, which is the property and glory of Eastern India and which has been exercising an immense influence on the brahmanic mind for the last seven or eight centuries, has been practically completed during the year. The last fasciculus containing indices has been printed but not yet published. It is in four parts called *Khaṇḍas*, each part treating of one *pramāṇa* or method of proof. The *pramāṇas*, according to this school, are four, namely, perception, inference, analogy and testimony; and there are parts treating of each of these. The second part, that on inference, has a subdivision entitled *Īccharānumāna*, i.e., inference of the existence of a Creator. The work has been edited by Paṇḍita Kāmākhyānātha Tarkavāgiṣa, the Professor of Hindu Philosophy in the Sanskrit College, Calcutta, on whom an appreciative Government has recently conferred the title of *Mahāmahopādhyāya*. The work has taken about 18 years to complete.

WORKS THAT HAVE BEEN COMMENCED.

SANSKRIT SERIES.

The *Çatapatha Brāhmaṇa* was published about forty years ago by Professor Weber of Berlin, but it was without a commentary and without that system of elaborate indices without which Vedic works are of little value to scholars. It was for this reason that the Council of the Asiatic Society of Bengal accorded their permission to the publication of the work with Sāyaṇācāryya's commentary and indices to Ācāryya Satyavrata Sāmaçrami who had already practically completed his edition of the *Aitareya Brāhmaṇa* with a commentary and indices. The work has been taken in hand and two fasciculi have already appeared.

The *Çlokavārtika* in verse and the *Tantravārtika* in prose complete the great work of Kumārila on the *Mīmāṃsā* School of Hindu Philosophy, which concerns itself with laying down principles and rules for the interpretation of the Vedas. This great work was written in the seventh century and was the first great polemical work which, by refuting other systems, established one system of Hindu faith. *Çaṅkara*

came after Kumārila and Udayana after him. An English translation of the *Çlokavārtika* has been undertaken by Babu Gaṅgānātha Jhāu, Librarian of the Mahārājā's Library, Darbhanga, a young graduate of the Allahabad University of great promise. One fasciculus appeared during the year under review.

The manners and customs of the Hindus will for a long time remain an interesting subject of study for scholars and the great repositories of these are the *Smṛti* works, especially the compilations. They exhibit the rituals in a variety of forms in different countries and at different times. Gadādhara, who flourished in the fourteenth century, made a *Smṛti* compilation which has peculiar interest from the fact that Orissa had not then succumbed to Muḥammadan influence. Paṇḍita Sadāçiva Miçra of Puri was therefore permitted to bring out an edition of Gadādhara's compilation known as *Gadādharapaddhati*. He has published one fasciculus during the year.

Piṅgala is reputed to be the originator of the science of Prosody among the Hindus. His *Sūtras* in Sanskrit were published long ago by the Society and his work in *Prākṛt* appeared from various places. The edition of the *Prākṛt* work attributed to him, however, did not satisfy the needs of scholars. Therefore Babu Caudramohana Ghoṣa, who had already distinguished himself by his excellent work on the *Chandas* entitled *Chandaḥ-sāra-saṃgraha*, was permitted to bring out an edition of *Prākṛtapaṅgala* with several commentaries and with indices and mathematical calculations. He has already published three fasciculi.

Obituary.

The Right Hon. Prof. F. Max Müller.

The Right Hon. Professor Dr. F. Max Müller, whose death occurred at Oxford in October, 1900, has been an Honorary Member of our Society since 1860. He was born at Dessau in Anhalt, Germany, on the 6th December 1823. His father Wilhelm Müller, a teacher and librarian at the Gymnasium, has made himself famous by his lyric poems, some of which are still much admired and often sung in Germany. By his mother Müller was descended from Basedow, the famous philanthropist and friend of Goethe. Müller was educated at Leipsic, where he also began his University course. Here it was Hermann Brockhaus, the editor of the *Kathāsaritsāgara* and the *Divān* of Ḥāfiç, who turned his mind towards the study of Oriental languages. He continued these studies at Berlin under Bopp and Rückert, and also went through a philosophical course under Schelling. Already at the age of twenty, he made himself known by a German translation of the *Hitopadeça*. After taking his degree of Ph.D. at Leipsic, he went to

Paris, then the centre of Oriental learning, where he studied under the famous Sanskrit scholar Eugène Burnouf, and the great Chinese scholar Stanislas Julien.

At that time to a young Sanskrit scholar a visit to England was indispensable. A very small portion only of Sanskrit texts was then available in print, but the libraries at London and Oxford contained vast treasures of Sanskrit manuscripts. It was for this reason that, in 1846, Müller decided to go to England. Here he was introduced to Bunsen, then the Prussian ambassador at London, and himself an enthusiastic admirer of Oriental thought and literature.

This event became decisive for his future career. It was through the mediation of Bunsen that the Court of Directors of the East India Company undertook to publish the edition of the Rg-Veda with the commentary of Sāyana, which Müller planned at that time, and for which it would have been impossible to find a private publisher. Through Bunsen also Müller was introduced to influential circles of English society and induced to settle finally in England. Here, at Oxford, he was appointed Professor of Modern Languages at the Taylorian Institute and elected a fellow of All Souls College. When in 1860 H. H. Wilson died, Müller was not, however, on account of his liberal views in theological and religious matters, elected as his successor to the Boden Professorship, although by his eminent work done in the field of Sanskrit studies he would have seemed to possess a strong claim to that post, and it was only in 1868 that he was appointed Professor of Comparative Philology. When, after the Franco-German war, the German Government reorganized the University at Strassburg, efforts were made to bring Müller back to his fatherland, and a professorship at the new University was offered to him. He did not accept it, however, partly in order to have more leisure for his literary work, and partly because England had become a second home to him from which he did not wish to separate; but he consented to deliver a course of lectures on Comparative Philology at the new University, and he granted a sum of money, the interest of which was to be given yearly as a prize for an essay on Vedic literature, the subject of which was to be determined by the University of Strassburg.

His distinguished career in England is too well known to be further detailed. Here intimate friendship connected him with many eminent men of his time. He had mastered the English language so thoroughly that he was able, within a few years after his arrival in England, to undertake for the first time an English translation of Kant's *Kritik der reinen Vernunft*, a very difficult task, as will be understood by every one who has tried to find his way through the writings of the great philosopher

of Königsberg. Although he never visited India, he had many friends and admirers among the natives of this country. By the simple pandit as well as by the nobleman he was looked upon with equal veneration as a friend and lover of India, who was always eager to impress upon Western minds what its ancient philosophy and literature can still teach us. The second edition of the Rg-Veda received a grant-in-aid from Indian princes, and the King of Siam enabled Müller to add to his Sacred Books of the East a second series devoted entirely to English translations of Buddhist scriptures. In India and all over the civilized world his name stands foremost in all matters connected with the study of languages and religions.

Müller's literary and scientific work has been principally devoted to three branches: Sanskrit, especially Vedic literature, Comparative Philology, and the history of Religion. In the first of these three branches, the great edition of the Rg-Veda with the commentary of Sāyana, which has been already alluded to, is by far his most eminent work, and although less known to the general public than his literary essays, it has gained for him an everlasting place in the history of philological research.

At the time when Max Müller began his Oriental studies, the importance of the Veda had just dawned upon the mind of the then living generation of Sanskrit scholars. The early pioneers of Sanskrit studies had entirely contented themselves with the classical literature and almost totally neglected this earliest literary document of the Indo-European race. Even Colebrooke found its meanings too obscure, and its language too difficult, to expect that it would repay a careful study, and in his *Essay on the Veda*, published in 1805, he warned others against wasting any time on it. But in the forties of the last century matters had already changed. Friedrich Rosen had begun to publish a small portion of the Rg-Veda, which, however, had come to an early end by his sudden death in the prime of life. In Paris the great Eugène Burnouf, although his own publications dealt with the Avesta and Buddhist literature, pointed out the great importance of the Veda. It was in Paris, too, that Rudolf Roth collected the materials for Vedic lexicography, which he incorporated later on into the great Petersburg dictionary, jointly edited by him and Böhtlingk, and upon which he based his important book on the literature and history of the Veda. At that time the treasures of Vedic literature were still lying buried in manuscripts, and the first task accordingly was to publish the Vedic texts. Thus Benfey in Göttingen brought out an edition of the Sāma-Veda, while Albrecht Weber in Berlin undertook to edit the voluminous Śākhā of the White Yajur-Veda according to the recension of the Vāja-

saneyi school, a work full of difficult discussions on intricate points of Vedic ritual.

The oldest and most important Vedic book, the Ṛg-Veda, was entrusted to Max Müller. It has already been related how he found an opportunity of publishing such a voluminous work. As he himself tells us, during the time he was engaged with this task, from 1850 up to 1875, he had to prepare for the press in each year 35 formes in large quarto size of a text full of intricate matter, requiring a thorough mastery of the language as well as of all other points connected with its interpretation. His edition of the Ṛg-Veda, which was published a second time some years ago, is universally acknowledged to be a standard work of its kind; and at present, where the interpretation of the often obscure hymns of the Vedic Ṛgis tends to vindicate to the commentary of Sāyana a greater value than originally had been given to it, he will be thanked for having spared no trouble in completing the often tedious task of preparing an edition of the entire commentary, instead of giving only abstracts, as had been done in similar cases.

Müller's next valuable publication in the same branch is his History of Ancient Sanskrit Literature. In this book he attempts to lay open the subsequent strata of the vast bulk of Vedic writings. He begins with the latest of them, the Sūtras, or ritualistic manuals, and shows how this class of literature presupposes an older one, the Brāhmanas, devoted to speculations on the various sections of the sacrifice, and on the meaning of the spells used in connexion with it. The Brāhmanas, again, had before them collections of *mantras* or spells, which must go back to a remoter time, and these collections of *mantras* often exhibit a misunderstood and conventional use of hymns, which had been composed in a previous time, the period to which the oldest parts of Vedic literature go back. He thus distinguishes between four consecutive periods, which, in the order they followed one another, he calls the *chandās*-period or the period in which the Vedic hymns were composed, the *mantra*-period or the period in which they were put together into collections intended for sacrificial purposes, the *brāhmaṇa*-period or the period of sacrificial speculation, and the *sūtra*-period or the period in which correct rules for the ritual were laid down. To each of these periods he attributes a certain amount of time, and starting from the supposition that the latest, or Sūtra period, had come to a close some hundred years before the rise of Buddhism, he arrives at the year 1500 B.C. as the approximate beginning of Vedic literature. It has recently been attempted, on the strength of astronomical data contained in the Veda, to push this time about two thousand years further back, but these attempts cannot be

said to have met with any general approval among competent authorities, while, on the other hand, the division of the four successive periods of Vedic literature is now universally accepted, and has been corroborated by further details brought to light by later researches.

In connexion with Müller's Sanskrit publications, his book on "India, what it can teach us?" also deserves mention. It originated from lectures delivered by him to the candidates of the Indian Civil Service at Cambridge, the object of which was to direct the interest of the future administrators of India towards the value which its literature, history, and antiquities still possess for us. In addition to those lectures he published an appendix detailing his views on the history and chronology of Sanskrit literature. His principal theory here is that of a revival of Sanskrit literature. He believes that after the Vedic and Epic periods the development of Sanskrit literature had been interrupted in the first centuries of the Christian era, while the greater part of India was under the sway of foreign invaders, Turanian princes, who imported foreign habits and were more addicted to Buddhism than to the promoters of Sanskrit literature, the Brahmins. The revival began in the fifth century, when princes of Indian blood again acquired a footing over their country and drove the strangers back, and it was at that time that classical Sanskrit literature sprung up. This theory is at present hardly any more accepted, but its value lies in formulating the problem and raising the discussion.

In speaking of Müller's literary works devoted to Comparative Philology and the history of Religion, I must not be misunderstood if I say that, wherever his work in this connexion is looked upon as original research, its due merit is not given to it. His Lectures on the Science of Language, published between 1861 and 1863, have certainly had a far reaching influence. Many a young student, fascinated by the masterly manner in which Müller understood how to handle the most tedious problems, owes to this book the first turn of his mind towards those studies, and it is greatly due to it that Comparative Philology became so popular not only in England but also on the Continent, as it was in the seventies and eighties of the last century. But although, at the time of its first appearance, it met only with isolated criticism from experts, such as Professor Whitney, yet now-a-days it is hardly spoken of any more. The progress of Comparative Philology in later years has been entirely ignored by Müller. His subsequent publications scarcely anywhere refer to new theories and discoveries, of which a great number have sprung up since 1875 so as to change the entire aspect of this science. By saying this, I do not wish to detract anything from his great merits. I readily admit that he has done more to promote the study of languages

than many a learned and most original publication but he has done so, not by adding any new and original results to this science, but by opening the eyes of the public to its value and importance.

The same must be said in regard to Müller's work on the history of Religion. Here we owe to him that most important publication, the *Sacred Books of the East*, a collection of English translations of the standard works of all the great religions of Asia. It exhibits in a singular manner his great talent as an organizer. He himself contributed a translation of the *Dhammapada* and of the *Upanishads*, and he acquired for it the co-operation of first class authorities in each respective branch. Thus, whoever is interested in Oriental religions has now an easy access to the standard works of Hinduism, Buddhism, the religions of Jains and Parsis, the philosophies of Confucius and Laotse, all laid before him in thoroughly trustworthy translations, which are equally valuable to the specialist as they are interesting to an amateur. But I regret to be unable to express the same opinion on Müller's own *Essays on the history of Religion*. His mythological theories are now happily discarded by most authorities, and if one tries to read through some of his later books, such as *Physical Religion*, *Anthropological Religion*, or whatever its name may be, one rests surprised to find under the glittering garment of a brilliant style so little that is new, nay, even so little that one does not recollect to have met with somewhere else in Müller's earlier books. He certainly was a most brilliant writer, and as his books, too, originated from lectures delivered by him, not before experts, but before a larger circle of amateurs, one may even say that he was under a certain necessity to please his hearers rather than to feed them on the dry fare of new facts and theories.

Thus, while Müller stands foremost among the pioneers of Vedic studies, his work in connexion with other branches of the study of languages and religion does not excel by original research, and yet has greatly helped to promote their popularity. But the advancement of science rests upon both, and he who endeavours to spread the knowledge found by others acquires no little merit. And the student who has made the study of Oriental languages and religions his life-work, ought never to forget the amount of gratitude he owes to the late Max Müller for the reputation in which this branch of learning has been and still is held.

[T. BLOCH.]

John Anderson, M.D., F.R.S.

By the death, on August 15th, 1900, of Dr. John Anderson, the Society has lost one of its oldest and most distinguished members, whose connexion with the Society dated from January, 1865.

Dr. Anderson was born on the 4th October, 1833, and graduated M.D. in the University of Edinburgh in 1861, his graduation thesis which was entitled "Contributions to Zoology," indicating the natural bent of his mind.

Before this he had already carried out some successful dredging operations off the coast of Scotland, and about this time he initiated his long series of Zoological publications with two papers *On an Apparently New Form of Holothuria*, and *On the Anatomy of Sacculina*, which appeared in the Annals and Magazine of Natural History for 1862.

After holding the Professorship of Natural Science in the Free Church College at Edinburgh for two years, he came to Calcutta, where his name is permanently associated, *monumentum aere perennius*, with the foundation of the Indian Museum and with the origins of our zoological knowledge of Upper Burma and Mergui.

He will also be remembered as one of the earliest advocates of a Zoological Garden for Calcutta, and as one of the experts who greatly assisted in giving shape to that Institution when it was started.

Dr. W. T. Blanford, than whom there is no one more competent to speak at first hand, has already, in "Nature," given a review of his scientific work, from which the following paragraphs are extracted:—

"His arrival in Calcutta was at a fortunate time. The Asiatic Society of Bengal had gradually come into the possession of a large collection, not only of the archæological remains, manuscripts, coins and similar objects, for the study of which the Society was originally established, but also of zoological and geological specimens in large numbers. In the course of the preceding quarter of a century the collections had increased, chiefly through the work of Edward Blyth, the curator, until the Society's premises were crowded, and the Society's funds no longer sufficed for the proper preservation and exhibition of the specimens collected. After long negotiations, interrupted by the disturbances of 1857, arrangements were completed in 1864 by which the archæological and zoological collections of the Society (the geological specimens had been previously transferred) were taken over by the Government of India, who undertook to build a new museum in Calcutta, of which the Society's collections would form the nucleus. The trustees appointed by the Government to manage the new museum asked the Secretary of State for India to select a curator, and Dr. J. Anderson was nominated for the post early in 1865. His status was changed, a few years later, to that of superintendent of the museum, and in addition to his museum work he became Professor of Comparative Anatomy at the Medical College, Calcutta. He held both offices until his retirement from India in 1886.

The time at which Dr. Anderson arrived in India was fortunate in another respect. It coincided with a great impulse given to Indian zoology by the publication of Jerdon's "Birds of India," the last volume of which appeared in 1864, and with the presence in Calcutta of a larger number of men interested in the study of the fauna than were assembled there at any time before or since. Amongst these men were Jerdon himself, Ferdinand Stoliczka, Francis Day, and Valentine Ball, all of whom have now passed away. Probably at no time has so much progress been made in the study of Indian Vertebrata as in the years 1864-74, and in this work Dr. Anderson took an important part.

The new Indian Museum, which now towers over the other buildings of Chowringhee, was not ready for occupation till 1875, but meantime Dr. Anderson had been busily engaged in adding to the zoological collections and in getting them into order. One of his first tasks was the bringing together of an ethnological series, for which the conditions of Calcutta are favourable. Amongst other important additions made by him was that of a fine series of human skulls representing various Indian races. Another very valuable museum series brought together by him consisted of a good collection of Indian Chelonia: skeletons, carapaces and stuffed specimens.

The work in Calcutta was interrupted by two important expeditions to Upper Burma and Yunnan, to both of which Dr. Anderson was attached as naturalist and medical officer. Both expeditions were designed to pass through China to Canton or Shanghai, but in neither case was it found practicable to carry out the original plan. The first expedition, commanded by Colonel E. B. Sladen, left Calcutta at the end of 1867, proceeded as far as Momein in Yunnan, and returned to India in November 1868; the second, under the command of Colonel Horace Browne, left in January 1875, but was treacherously attacked by the Chinese before it had proceeded more than three marches beyond the Burmese frontier, and compelled to return, Mr. Margery, of the Chinese Consular Service, who had been despatched to accompany the mission, and who had preceded it by a march, being murdered with several of his followers. The difficulties experienced by both missions from the time they crossed the frontier between Burma and China, and the opposition of the inhabitants of the country, seriously interfered with zoological observations, and the collection of specimens was generally impossible; but still some important additions were made to the previous knowledge of the fauna. A full account of the journey was given in Dr. Anderson's reports and in a work by him, entitled "Mandalay to Momein," published in 1876. The detailed observations on zoology, supplemented by important notes on some Indian and Burmese

mammals and chelonians, were published in 1878-9, under the title of "Anatomical and Zoological Researches, comprising an Account of the Zoological Results of two Expeditions to Western Yunnan in 1863 and 1875, and a Monograph of the two Cetacean Genera, *Platanista* and *Orcella*." The work appeared in two quarto volumes, one consisting of plates. Dr. Anderson was the first who succeeded in obtaining specimens of the porpoise (*Orcella*) inhabiting the Irrawaddi, and the examination of this previously undescribed form led him to make a thorough anatomical investigation of an allied species occurring in the Bay of Bengal and in the estuaries of rivers flowing into the bay, and also of the remarkable cetacean, *Platanista*, inhabiting the Ganges, Brahmaputra and Indus.

The only other important collecting expedition undertaken by Dr. Anderson during his tenure of the superintendentship of the Indian Museum was to Tenasserim and the Mergui Archipelago in 1881-2. This journey was chiefly, though by no means exclusively, undertaken for the collection of marine animals, and the descriptions of the results, to which several naturalists contributed, were published first in the *Journal* of the Linnean Society, and subsequently as a separate reprint in two volumes, under the title of "Contributions to the Fauna of Mergui and its Archipelago." This appeared in 1889. Dr. Anderson's share was the description of the Vertebrata and an account of the Selungs—a curious tribe inhabiting some of the islands; but in connection with his visit to Mergui, and as part of a general description of the fauna which he had at first proposed to publish, he prepared an account of the history of Tenasserim, formerly belonging to Siam. This historical *résumé*, which deals especially with British commercial and political intercourse with Siamese and Burmese ports, was compiled mainly from the manuscript records of the East India Company, preserved in the library of the India Office, and was published in 1889 in a separate volume, entitled "English Intercourse with Siam." The book forms a well-written and interesting chapter of the history of British progress in Southern Asia.

Besides the works already mentioned and many papers, descriptive of mammalia and reptiles, which were published in the *Journal* of the Asiatic Society of Bengal and in the *Proceedings* of the Zoological Society of London, Dr. Anderson wrote two catalogues on very different subjects for the museum under his charge in Calcutta. Of these, one was the first part of the "Catalogue of Mammals," published in 1881, the other the "Catalogue and Handbook of the Archæological Collection" which appeared in 1883.

Dr. Anderson was elected a Fellow of the Royal Society in 1879,

and retired from the Indian Service in 1886. He had married a few years previously, and after retiring he travelled with his wife to Japan. Finally he settled in London, but for the remainder of his life his health was somewhat precarious, and he passed several winters in Egypt. Here he took up the study of the mammals and reptiles, which had received but scant attention since the early part of the century, when the great and superbly illustrated French work on Egypt appeared—a work which, brilliantly begun by Savigny and others, was never adequately completed.

To the work of collecting, examining, figuring and describing the Mammalia, Reptilia and Batrachia of Egypt, the later part of Dr. Anderson's life, when he was well enough for work, was mainly devoted. He also paid some attention to the fauna of the neighbouring countries, and in 1898 published "A Contribution to the Herpetology of Arabia," founded on the collections of the late Mr. J. T. Bent and others. The first part of the important work he had intended to produce on the zoology of Egypt, containing an account of the physical features of the country and descriptions of Reptilia and Batrachia, appeared in 1898. It is a fine quarto volume with excellent figures, many of them coloured. He had made large collections and notes for the volume on Mammalia, and these it is hoped will be published in due course.

One of the last undertakings in which Dr. Anderson engaged, as soon as the Upper Nile valley was once more thrown open to civilisation, was the systematic collection and description of the fish inhabiting the river and its tributaries. That this important work (of which a notice appeared in *NATURE* of February 23, 1899) is now being carried out with warm interest and assistance from the Egyptian Government, must be attributed to Dr. Anderson's foresight, zeal and skilful advocacy. Both in our Indian Empire and in North-Eastern Africa, Dr. Anderson contributed much to the solution of one of the chief biological questions of the present day, an accurate knowledge of the distribution of animal life."

[A. ALCOCK.]

The Report having been read and some copies having been distributed, the President invited the Meeting to consider it at their leisure.

The President announced that the Elliott Prize for Scientific Research for the year 1900 would not be awarded, and that the Barclay Memorial Medal for the year 1900 had been offered to Mr. E. Ernest Green, Government Entomologist of Ceylon.

The President announced that the Scrutineers reported the result of the election of Officers and Members of Council to be as follows :—

President.

His Honor Sir John Woodburn, M.A., K.C.S.I.

Vice-Presidents.

H. H. Risley, Esq., B.A., C.I.E., I.C.S.

Col. T. H. Hendley, C.I.E. I.M.S.

Major A. Alcock, M.B., C.M.Z.S., I.M.S.

Secretary and Treasurer.

Honorary General Secretary :—T. H. Holland, Esq., F.G.S.

Treasurer :—W. K. Dods, Esq.

Additional Secretaries.

Philological Secretary :—T. Bloch, Esq., Ph.D.

Natural History Secretary :—L. de Nicéville, Esq., F.E.S., C.M.Z.S.

Anthropological Secretary :—F. E. Pargiter, Esq., B.A., I.C.S.

Joint Philological Secretary :—Mahamahopadhyaya Haraprasad Shastri.

Other Members of Council.

J. D. Nimmo, Esq.

Dr. Mahendralal Sircar, M.D., D.L., C.I.E.

C. L. Griesbach, Esq., F.G.S., C.I.E.

A. Pedler, Esq., F.R.S.

S. C. Hill, Esq., B.A., B.Sc.

J. Bathgate, Esq.

F. Finn, Esq., B.A., F.Z.S.

The Hon. Mr. C. W. Bolton, C.S.I., I.C.S.

T. H. D. La Touche, Esq., B.A.

The Meeting was then resolved into the Ordinary General Meeting.

His Honor Sir John Woodburn, M.A., K.C.S.I., President, in the chair.

The minutes of the last meeting were read and confirmed.

Twenty-three presentations were announced.

Captain H. E. Drake-Brockman, I.M.S., and Dr. F. Noetling were ballotted for and elected and re-elected respectively Ordinary Members.

A vacancy having occurred owing to the death of the Right Hon. Prof. F. Max Müller, the Council recommended Prof. J. W. Judd, C.B., LL.D., F.R.S., for election as Honorary Member at the next meeting. In accordance with the provisions of Rule 13 the Secretary read the following note on Prof. Judd's work.

Dr. Judd commenced his study of Science by entering the Royal School of Mines as a student in 1863, when he was already 23 years of age, having previously been engaged in teaching and literary work. Notwithstanding, a long and serious interruption, due to being disabled in a railway accident, his brilliant geological work secured for him an admission to the Royal Society in 1877 at an unusually early age, soon after he had been selected for the chair of Geology at the Royal School of Mines in succession to Sir Andrew Ramsay. In 1885, he presided over the Geological Section of the British Association, and in 1886 was elected President of the Geological Society of London, serving at the same time on the Council of the Royal Society. In 1891, the Geological Society recognised his scientific work by conferring on him the highest honour at their disposal, namely, the Wollaston medal. In 1895, Prof Judd was appointed Dean of the Royal College of Science as successor to the late Right Hon. Prof. Huxley, and in the same year was created a Companion of the Order of the Bath.

Commencing work on the Geological Survey of England by mapping the Mesozoic rocks of Lincolnshire and Rutland, Professor Judd passed on to the secondary rocks of Scotland, where contact with a large number of igneous rocks led him to take up the then comparatively new study of microscopic petrography, and to apply the new methods to a systematic study of the volcanoes of Hungary and the Mediterranean islands. To his extensive papers on these subjects the rapid development of microscopic petrology was largely due. During recent years Prof. Judd has turned his attention to mineralogy, studying especially the nature of etch-figures and the internal structure-planes of crystals. Some of his papers on these subjects had been based on Indian material, and to him we are indebted for a study of amblystegite from the Nilgiris, tourmaline and corundum from Mysore and Rewah, and, finally, an exhaustive memoir on the ruby and its associates in the crystalline limestones of Burma. Not the least amongst the debts which India owes to Professor Judd will be found in the work of a large number of pupils in different parts of the country, with whom this our tribute to the value of his work will be specially popular.

The General Secretary reported the presentation from the Bombay Branch of the Royal Asiatic Society, of a gold coin found in the Bijapur District.

The General Secretary announced that Mahamahabopadhyaya Haraprasad Shastri, Joint Philological Secretary had been appointed to officiate as Philological Secretary during the absence of Dr. Bloch.

The proposal to alter the status of the Society of which intimation had already been given by circular to all members was brought up for final disposal. The votes of the members were laid on the table and the President requested any Resident members who had not expressed their opinion to take the present opportunity of filling in voting papers. 3 such papers were filled in and with the 98 returned by members were scrutinized, the President appointing Mr. F. E. Pargiter, Mr. W. A. Lee, and Mr. A. Pedler to be Scrutineers. The Scrutineers reported as follows :—

PROPOSALS.

(1) To emphasize the fact that the Society was founded to investigate all branches of knowledge, and to advance research in and culture of all forms of learning, that its work should be carried on under three main heads, namely :—

1. Literature.
2. Science.
3. Art.

<i>For</i>	...	...	79
<i>Against</i>	...	...	18

(2) To appoint *Fellows* and *Associates* in order that the Society may have at its disposal the means of showing its appreciation of good work done by its members, and thereby also attracting persons to join its ranks especially from the provinces and from affiliated societies.

<i>For</i>	...	...	66
<i>Against</i>	...	...	30

(3) That the number of *Fellows* should be limited to a maximum of 36 ; and that the number of *Associates* should be double that of the *Fellows*. The *Fellowships* and *Associateships* should be allotted to the three branches, *Literature*, *Science* and *Art*, in the proportion of 2, 3 and 1 respectively as nearly as possible, this being approximately the ratio of the relative dimensions of these branches.

Number of *Fellows* and
Associates.

<i>For</i>	...	...	68
<i>Against</i>	...	...	26

(4) That any existing society in India which has been established for the promotion of knowledge may be invited to become affiliated to this Society, and should, if it accepts affiliation, receive, on the payment of a general contribution, the publications of this, the chief Society, permission for its members to attend meetings of the Society, and to share in the awards of Fellowships and Associateships, provided that on election all Fellows and Associates join the Society as Members.

Affiliated Societies.

<i>For</i>	...	...	74
<i>Against</i>	...	...	22

(5) That the rates of subscription should be changed to suit members who prefer to take only special parts of the Society's publications. The following scale is suggested to replace the present system of charging Resident and Non-Resident Members respectively Rs. 36 and Rs. 24 a year:—

Membership (Resident) with *Proceedings*, Rs. 24 per annum.
Do. (Non-Resident) do. „ 16 do.

Receiving Journals also

	1 Part.	2 Parts.	3 Parts.
Resident ...	Rs. 30	Rs. 36	Rs. 40
Non-Resident ...	„ 22	„ 28	„ 32
<i>For</i>	...	...	68
<i>Against</i>	...	...	22

(6) That abstracts of current literature, of immediate interest to the members, such as are made in many Asiatic Societies, as well as in Societies devoted to Natural Science and Technology, should be published at frequent and regular intervals in each division, and that attempts should be made to make the publications of the Society more generally interesting and useful to workers, especially to those who live at a distance from the capitals. The advantages of this are obvious.

Abstracts of currents literature.

<i>For</i>	...	...	90
<i>Against</i>	...	...	8

(7) That the name of the Society should be changed to “Royal Society of India for the promotion of Literature, Science and Art.”

Change of Name.

<i>For</i>	...	...	55
<i>Against</i>	...	...	40

(8) That a Charter or an Act of Incorporation be applied for from the Crown through the Government of India, and with propriety a regular grant may be asked for from the latter, and possibly also from the Local Governments.

<i>For</i>	...	...	86
<i>Against</i>	...	...	10

(9) If the Society is re-constituted and its aspirations and usefulness expanded, its government must be changed. It is suggested that this may be effected (a) by adding to it a Patron, who would it is hoped be the Viceroy and Governor-General and 5 Vice-Patrons, who would be Governors, Lieutenant-Governors, Chief Commissioners and Indian Princes elected for a term; (b) by retaining the President, who should be a Fellow, and the 3 Vice-Presidents, who may be Fellows, Associates, or perhaps Ordinary Members; (c) by retaining the Council, which would be composed of the President, Vice-Presidents and a certain proportion of Fellows, Associates and Members who might be elected (as at present) as being likely from their residence in Calcutta to assist in the business of the Society; and it may be useful to have members of Council also in other large towns or centres who would preside over branch meetings such as for example is held this year in Simla; and (d) by appointing additional Secretaries and other officers of sections as may be required, and a General Secretary.

<i>For</i>	...	...	78
<i>Against</i>	...	...	14

The voting shows a three-quarters majority in favour of proposals Nos. (1), (4), (5), (6), (8) and (9), whilst there is an insufficient majority in favour of Nos. (2), (3) and (7).

PROCEEDINGS
OF THE
ASIATIC SOCIETY OF BENGAL,
FOR MARCH AND APRIL, 1901.

The Monthly General Meeting of the Society was held on Wednesday, the 6th March, 1901, at 9 P.M.

F. E. PARGITER, ESQ., B.A., I.C.S., in the chair.

The following members were present :—

Mr. K. J. Badshah, Mr. J. Bathgate, Mr. D. Campbell, Mr. W. K. Dods, Major F. J. Drury, I.M.S., Mr. F. Finn, Mr. S. C. Hill, Mr. T. H. Holland, Mr. G. W. Kuchler, Mr. W. A. Lee, Kumar Rameshwar Malliah, Captain C. J. R. Milne, I.M.S., Mr. L. de Nicéville, Mr. I. G. Schwaiger, Mahamahopadhyaya Haraprasad Shastri.

Visitors :—Mr. A. C. Cruden, Mr. A. Goodwin, Dr. F. H. Hatch.

The minutes of the last meeting were read and confirmed.

Nineteen presentations were announced.

Mr. E. P. Stebbing, Maulavi Habibur Rahman Khan, Kumar Birendrachandra Singhi, Babu Manmathanath Chakravarti, Dr. J. Ph. Vogel, Babu Rajchandra Chandra, Mr. J. C. Fergusson, I.C.S., Mr. H. R. Nevill, I.C.S., and Mr. W. E. N. Campbell, I.C.S., were balloted for and elected Ordinary Members.

Professor J. W. Judd, C.B., LL.D., F.R.S., was balloted for and elected Honorary Member.

The Chairman announced that Mr. O. V. Bosanquet, I.C.S., and Maulavie Mahammad Abdulla, M.A., elected members of the Society on the 19th September and 31st October, 1900, respectively, having not paid their entrance fees, their elections have become null and void under Rule 9.

The General Secretary reported the presentation of the following coins :—

From the Superintendent, Government Central Museum, Madras, 6 leaden coins found in the Madras Presidency.

From the Honorary Secretary, Bombay Branch, Royal Asiatic Society, 3 copper coins found in the Ahmedabad District.

The following papers were read :—

1. *Notes on the Fauna of Chitral.*—By CAPTAIN A. H. McMAHON, C.S.I., C.I.E., I.S.C., Political Agent, Dir, Swat and Chitral.
2. *Notes on the Fauna of Dir and Swat.*—By CAPTAIN A. H. McMAHON, C.S.I., C.I.E., I.S.C., Political Agent, Dir, Swat and Chitral.
3. *On an Accumulation Droll and Rhyme from Behar.*—By SARAT-CHANDRA MITRA, M.A., B.L., Communicated by the Anthropological Secretary.

The Monthly General Meeting of the Society was held on Wednesday, the 3rd April, 1901, at 9 P.M.

F. E. PARGITER, Esq., B.A., I.C.S., in the chair.

The following members were present :—

Mr. J. Bathgate, Rai Chunilal Bose Bahadur, Mr. F. Finn, Lt.-Col. G. F. A. Harris, I.M.S., Mr. D. Hooper, Mr. L. de Nicéville, Captain L. Rogers, I.M.S., Mahamahopadhyaya Haraprasad Shastri.

Visitor :—Babu Hemchandra Dey.

The minutes of the last meeting were read and confirmed.

Seventeen presentations were announced.

Babu Pramathanath Mullick, Mr. V. R. Painsay, and Babu Abhaya Sankar Guha, were balloted for and elected Ordinary Members.

Mr. William Dods expressed a wish to withdraw from the Society.

The Chairman announced that in accordance with Rule 38 of the Society's Rules, the name of the following gentleman had been posted up as defaulting member since the last meeting and will be removed from the Member List.

Pandit Behari Lal Chaube.

The General Secretary reported the death of Mr. G. F. Reader and Babu Shamlal Mullick, Ordinary Members of the Society.

The Chairman announced that Major A. Alcock, I.M.S., had been appointed Honorary General Secretary in the place of Mr. T. H. Holland, resigned.

The General Secretary reported the presentation of the following coins.

From the Honorary Secretary, Bombay Branch, Royal Asiatic Society, 1 gold coin of the Khaliffs found in the Ratuagherry District.

From the Under-Secretary, Government of N.-W.P. and Oudh, 4 silver coins.

The following papers were read :—

1. *On the Kaluha Hills in the District of Hazaribag.*—By NUNDO-LAL DEY, *Munsiff, Tamruk.* Communicated by the Philological Secretary.
 2. *Note on the Butterflies comprised in the subgenus Tronga of the genus Euploea.*—By LIONEL DE NICÉVILLE, F.E.S., C.M.Z.S.
 3. *On various tribal customs in Manipur.*—By T. C. HODSON. Communicated by the Anthropological Secretary.
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PROCEEDINGS
OF THE
ASIATIC SOCIETY OF BENGAL.

FOR MAY & JUNE, 1901.

The Monthly General Meeting of the Society was held on Wednesday, the 5th June, 1901, at 9-15 P.M.

The Hon. Mr. C. W. BOLTON, C.S.I., I.C.S., in the chair.

The following members were present:—

Major A. Alcock, I.M.S., Mr. J. Bathgate, Dr. T. Bloch, Rai Chunilal Bose Bahadur, Major C. R. M. Green, I.M.S., Mr. D. Hooper, Mr. T. H. D. La Touche, Kumar Rameshwar Malliah, Mr. L. de Nicéville, Mr. J. D. Nimmo, Mr. F. E. Pargiter, Mr. E. Thornton.

Visitors:—Mr. J. Macfarlane, Mr. T. L. Walker.

The minutes of the last meeting were read and confirmed.

The Council reported that no meeting was held in May as a quorum of members was not present.

Fifty-seven presentations were announced.

Babu Nundolal Dey, Lala Lajpat Rai, Mr. E. P. Chapman, I.C.S., Mr. H. H. Mann, Lieut-Col. G. M. Porter, R.E., Mr. A. F. M. Abdur Rahman, Babu Ramani Mohan Mullick, Mr. W. Parsons, Dr. Thos. H. Aquino, Major D. G. Crawford, I.M.S., Mr. J. H. Burkill, Mr. E. H. Walsh, I.C.S., and Mr. F. J. Ede, were ballotted for and elected Ordinary Members.

Syed Mahomed Latif Khan Bahadur and Mr. E. B. Havell expressed a wish to withdraw from the Society.

The General Secretary read the names of the following gentlemen who had been appointed to serve on the various Committees for the present year.

Finance and Visiting Committee.

Dr. T. Bloch, Mr. L. de Nicéville, Mr. J. D. Nimmo, Mr. F. E. Pargiter, Mr. A. Pedler, Mr. H. H. Risley, Mahamahopadhyaya Haraprasad Shastri.

Library Committee.

Dr. T. Bloch, Mr. S. C. Hill, Mr. D. Hooper, Mr. C. W. McMinn, The Hon. Dr. Asutosh Mukerjee, Mr. L. de Nicéville, Mahamahopadhyaya Haraprasad Shastri, Mr. E. Thornton.

Philological Committee.

Maulavie Ahmad, Dr. T. Bloch, Babu Pratapchandra Ghosha, Shams-ul-Ulama Mahomed Shaikh Gilani, Mr. J. G. Lorimer, The Hon. Dr. Asutosh Mukerjee, Mr. F. E. Pargiter, Major D. C. Phillott, I.S.C., Pandit Satyavrata Samasrami, Mahamahopadhyaya Haraprasad Shastri, Mahamahopadhyaya Chandrakanta Tarkalankara, Dr. G. Thibaut, Babu Nagendra Nath Vasu, Mr. A. Venis, Lt.-Col. L. A. Waddell, I.M.S.

Coins Committee.

Lt.-Col. D. S. E. Bain, I.M.S., Dr. T. Bloch, The Hon. Mr. J. A. Bourdillon, Babu Panchanan Mukerjee, Mr. F. E. Pargiter, Mr. E. Thurston.

The Secretary reported the presentation of 1 gold, 34 silver, and 1 copper coins from the Honorary Secretary, Bombay Branch, Royal Asiatic Society, found in the Ahmedabad District.

The Chairman announced that Dr. T. Bloch, having returned from tour, had taken over charge of the duties of Philological Secretary from Mahamahopadhyaya Haraprasad Shastri.

The Secretary reported that the subject for the Elliott Prize for the present year is *Mathematics*.

The Council reported :—

1. That the Government of India had sanctioned the continuance for a further period of five years with effect from 1st April, 1901, of the

Annual grant of Rs. 3,200 in aid of the operation in search of Sanskrit MSS. in Bengal.

2. That Mr. C. Michie officiated as Treasurer of the Society during the temporary absence of Mr. W. K. Dods.

The following papers were read:—

1. *The Sacred caves of Cachar.*—By FRANCIS J. EDE. Communicated by the Philological Secretary.

2. *Noviciæ Indicæ*, No. XVIII.—*The Asiatic species of Dalbergia.*—By MAJOR D. PRAIN, I.M.S.

(Abstract.)

The writer, who has for the past four years been engaged in his spare time in studying the species of *Dalbergia* of S.-E. Asia with a view to publishing a monograph of the genus has been able to study the material contained in the following herbaria (1) Calcutta, (2) Kew, (3) British Museum, (4) Herb. Wallich, (5) Herb. Linnæus, (6) Herbarium of M. Drake del Castillo, Paris, (7) Herb. Peradeniya, Ceylon, all of which he has visited. The following collections of *Dalbergia* have also been sent to him for study in Calcutta, (8) Herb. Berlin, lent by Prof. Engler, (9) Herb. Leiden, lent by the late Prof. Saringar, (10) Herb. De Candolle, Geneva, lent by M. de Candolle, (11) Herb. Boissier, Geneva, lent by M. Barbey, (12) Herb. Beccari, Florence, lent by Sig. Beccari, (13) Herb. Buitenzorg, lent by Dr. Treub., (14) Herb. Paris, lent by M. Bureau, (15) Herb. Saharanpur, lent by Mr. Duthie (16) Herb. Hongkong, lent by Mr. Ford. Specimens of the only *Dalbergia* in Herb. Brisbane have also been sent by Mr. Bailey. Circumstances rendering it necessary to forego, for the moment, the publication of the projected monograph the writer has drawn up a hand list of the 74 known Asiatic Species of *Dalbergia* with a tolerably complete bibliography and a full record of their distribution as indicated by specimens in the sixteen herbaria whose collections have been studied. In all except the very common and salient species reference is made to the field-numbers on the various specimens in order that the list may be of use not only to members of our Society and to those who may study the specimens in the herbaria the writer has examined, but also to those who may work in other herbaria not yet visited by the writer in which duplicates bearing these numbers are preserved.

3. *Marriage customs of the Khonds.*—By J. E. FRIEND-PEREIRA, B.A. Communicated by the Anthropological Secretary.

4. *Materials for a Flora of the Malayan Peninsula, No. 12.*—By SIR GEORGE KING, K.C.I.E., LL.D., F.R.S., &c., late Superintendent of the Royal Botanic Garden, Calcutta.

(Abstract.)

The paper contains descriptions of all the species of the Natural Order *Myrtaceæ* known to be indigenous to the Malay Peninsula, to the Straits Settlements and to the Andaman and Nicobar Islands; and it has been prepared after examining the rich collections contained in the Herbaria of the Royal Botanic Gardens of Kew and Calcutta and of the Government Gardens at Singapore and Penang. The species described in it amount to 122 and these are distributed amongst 11 genera. This proportion closely resembles that obtaining for the same family in Sir Joseph Hooker's *Flora of British India*, in which there are described 157 species belonging to practically the same genera, for *Pseudo-Eugenia* (the additional genus given here) has been carved out of *Eugenia* since Hooker's *Flora* was completed. In both Floras the largest genus is *Eugenia*, of which there are 131 species given in Hooker's work as against 96 in the present paper. Of these 96 no fewer than 50 are here described for the first time. And, as the Malay Peninsula and the adjacent islands fall within, the limits of British India (as understood by Hooker, the *Eugeniæ* of British India now stand at 181. Besides the 50 new species of *Eugenia*, there are described in the paper 4 new species of the beautiful littoral genus *Barringtonia*—plants which, in addition to possessing handsome flowers, are remarkable for their curious fruits. Novelties are also described under the genera *Tristania*, *Pseudo-Eugenia* and *Planchonia*.

The total known number of species of *Myrtaceæ* is very great, being estimated at about 2,800. These are distributed chiefly over the warm parts of Asia, Australasia, Africa and America, only one (the common Myrtle) being indigenous in Europe.

The *Myrtaceæ* are most abundant in South America, and they make a large proportionate part of the vegetation of Australia in which island very large and important forests consist for the most part of species of *Eucalyptus*.

PROCEEDINGS
OF THE
ASIATIC SOCIETY OF BENGAL.
FOR JULY, 1901.

The Monthly General Meeting of the Society was held on Wednesday, the 3rd July, 1901, at 9-15 p.m.

MAJOR A. ALCOCK, M.B., LL.D., F.R.S., Vice-President, in the chair.

The following members were present :—

Mr. J. Bathgate, Dr. T. Bloch, Rai Chhunilal Bose Bahadur, Mr. J. H. Burkill, Dr. A. Caddy, Mr. W. K. Dods, Major C. R. M. Green, I.M.S., Lt.-Col. G. F. A. Harris, I.M.S., Mr. D. Hooper, Mr. T. H. D. La Touche, Mr. W. A. Lee, Mr. W. H. Miles, Mr. L. de Nicéville, Lt.-Col. G. M. Porter, R.E., Captain L. Rogers, I.M.S., Mr. D. R. Wallace.

Visitors :—Mr. J. E. Gabbett, The Hon. Mr. Justice Taylor, and Mr. Gordon Wallace.

The minutes of the last meeting were read and confirmed.

Twenty presentations were announced.

The Chairman announced that in accordance with Rule 38 of the Society's Rules, the name of Thakur Garuradhawaya Prasad Singh had been posted up as defaulting member since the last meeting and will be removed from the Member List.

The Chairman announced that the Subscribers to the King and Cunningham Memorial Fund had presented reduced replicas of the

Medallion Portraits of Sir George King and Dr. D. D. Cunningham to the Society.

The Secretary laid on the table the following letter from Mr. William Irvine, I.C.S., (retired), relative to a paper entitled "Notes on the Raṅgāri caste in Barār" by Captain Wolseley Haig, I.S.C., published in the Society's *Journal*, Part III, No. 1 of 1901.

On p. 3 of his "Notes on the Raṅgāri caste in Barār" (J.A.S.B., Vol. LXX, Part III, 1901), Captain Haig says "some members of the caste still make pilgrimages to the temple of Hinglāj Mātā, otherwise called Hinglāj Devī, and Hinglāj Bhavāni in Gujarāt. The temple, they say, is situated 'on the far side of Gujarāt.'"

I would suggest that the place intended is Hinglāj in Makrān, which is shown on the map in Sir Thomas H. Holdich's "The Indian Borderland" (London, Methuen & Co., 1901). On p. 206 Sir T. Holdich says "the most ancient and honourable ziarat of Hinglāj is hidden away 'in the clefts of the mountains (a ziarat so ancient that both Hindus and Mahomedans claim it, without recognizing its almost prehistoric Persian origin)." This Hinglāj (=Hinglāj) may be described as on the "far side of Gujarāt;" it being over two hundred miles west of the most western part of Gujarāt.

Major A. Alcock, F.R.S., exhibited models of snakes and of a deep-sea fish *Odontostomus atratus* which had swallowed a cuttle fish of considerably greater diameter than itself.

The following paper was read:—

The growth of Calcareous Tufa in the Rivers of the Shan States, Upper Burma.—By T. H. D. LA TOUCHE, B.A.

(Abstract.)

The formation of beds of calcareous tufa in countries where limestone is the prevailing rock is a well-known natural phenomenon. Rain water containing a small proportion of carbonic acid derived from the atmosphere, flowing through crevices in the rock, is enabled to dissolve a certain amount of it, and on reaching the open-air this is deposited as the water evaporates.

In many of the rivers of the Shan States in Upper Burma, where the hills are largely composed of limestone, large masses of calcareous tufa are deposited, forming regular dams across the river often 20 feet or more in height. These are built up wherever the water is in violent motion, as at the heads of rapids, where it seems improbable that the

particles of carbonate of lime could be retained, if the process of deposition were merely mechanical. The growing surface of the deposit is always covered with a growth of bright green algæ and it is well-known that chlorophyll bearing algæ have the power, under the influence of light, of directly assimilating the carbon contained in carbonic acid. It seems probable therefore that these algæ which naturally grow most rapidly in position where there is a considerable rush of water, bringing an abundance of their natural food, assist in the deposition of the carbonate of lime by destroying the carbonic acid which holds it in solution; while the felted mass of fibrous algæ affords a means of retaining the minute particles of calcite and allowing them to grow together into the granular crystalline deposit of which the dams are built up.



PROCEEDINGS
OF THE
ASIATIC SOCIETY OF BENGAL.
FOR AUGUST, 1901.

The Monthly General Meeting of the Society was held on Wednesday, the 7th August, 1901, at 9-15 P.M.

THE HON. MR. C. W. BOLTON, C.S.I., Vice-President, in the chair.

The following members were present :—

Major A. Alcock, I.M.S., Mr. J. Bathgate, Dr. T. Bloch, Rai Chuni-lal Bose Bahadur, Mr. J. H. Burkill, Mr. W. K. Dods, The Revd. E. Francotte, S.J., Mr. E. A. Gait, Major C. R. M. Green, I.M.S., Mr. D. Hooper, The Revd. E. Lafont, S.J., Mr. T. H. D. La Touche, Mr. J. Macfarlane, Mr. C. Michie, Mr. J. D. Nimmo, Mr. R. D. Oldham, Mr. F. E. Pargiter, Lt.-Col. G. M. Porter, R.E., Captain L. Rogers, I.M.S., and Mr. E. Thornton.

Visitors :—Mr. J. R. Blackwood, Major W. J. Buchanan, I.M.S., Mr. Clifford D. Matthews, Mr. Norman McLeod, Lieut.-Col. E. H. Molesworth, I.S.C., Mr. J. M. G. Proffit, Babu Hiralal Sinha, Dr. T. L. Walker, and Mr. H. J. Weston.

The minutes of the last meeting were read and confirmed.

Fifty-one presentations were announced.

Miss Margaret Adams, Babu Chandra Narayan Singha, Mr. J. Macfarlane, Dr. T. L. Walker, and Mr. E. Molony, I.C.S., were balloted for and elected Ordinary Members.

Maulavie Abdul Aziz Khan and Captain W. F. O'Connor, R.A., expressed a wish to withdraw from the Society.

The General Secretary reported the death of His Grace the Most Revd. Archbishop P. Goethals, S.J.

Major Alcock reported that as the duties of the Honorary General Secretary which he had accepted temporarily had devolved on him permanently he was compelled by Rule 4 to resign his office of Vice-President.

The Chairman reported for confirmation by the General Meeting that the Hon. Mr. C. W. Bolton, C.S.I., had been elected Vice-President in the room of Major Alcock.

Mr. T. H. D. La Touche exhibited some Palæozoic Fossils from Upper Burma.

The Philological Secretary exhibited some rare Persian MSS. newly acquired by the Society.

The following papers were read :—

1. *Wolf Hybrids in Gilgit*.—By CAPTAIN MANNERS SMITH, V.C., C.I.E. Communicated by MAJOR ALCOCK.

2. *The Khojas of Eastern Turkistan*.—By H. BEVERIDGE, I.C.S. (retired).

3. *An inscription of Uddyota Kesari Deva from Khandugiri, Orissa*.—By T. BLOCH, PH.D.

4. *The inscription on the Qadan Rasul at Cuttack*.—By T. BLOCH, PH.D.

5. *Folk-lore from Pargana Sipāh in the District of Saran*.—By SARATCHANDRA MITRA. Communicated by the Anthropological Secretary.

Major Alcock read the following paper, by Miss Nelly Evans, upon the habits of the common grey mosquito of Calcutta. The paper is interesting as giving detailed evidence, with regard to the female of this species of mosquito, (1) that it may live, in its adult or imago stage, for nearly five weeks, (2) that during its adult life it may feed as many as five times, and (3) that it does not feed indiscriminately, but has a preference for the blood of the house-sparrow, refusing that of Java-sparrows, larks, rails, and white rats.

All these facts, but the last one in particular, favour the possibility of the insect being a carrier of a definite blood-infection, and support the conclusions of Ross based upon experiments with this species of mosquito.

6. *Some Observations on the Life-history of Culex fatigans, the Common Grey Mosquito of Lower Bengal.*—By NELLY EVANS.

This investigation was carried out during February and March, in the Indian Museum, Calcutta.

Culex fatigans will live for about a month if fed on fruit only, but the female does not lay eggs unless she has a meal of blood. A few individuals were kept without food of any kind and some of these lived as long as ten days. *Culex fatigans* feeds readily on the common house-sparrow, but it was found that the insect would not bite Java-sparrows or larks or rails or white rats, all of which were tried. The common house-sparrow was therefore used to supply the necessary meal of blood.

The female mosquito lays its eggs from four to six days after feeding, and the time seems to depend on the amount of blood taken. It was noticed that if the insect gorged itself the eggs were laid on the fifth day or sooner, whereas if less blood was taken, the time between feeding and laying the egg-boat was longer, sometimes as long as ten or fourteen days; and if very little was taken a second meal of blood was required before the eggs were laid. The female mosquito feeds again on the sparrow the night after laying her eggs, and will lay a second batch of eggs at the end of five days, so that if she is always able to obtain a meal of blood, she will lay a batch of eggs about every five or six days or roughly once a week.

Of fourteen female mosquitos kept to ascertain the duration of life, and number of repasts of blood, and number of egg-boats laid, two lived for twenty-eight and twenty-nine days respectively and each fed five times on the sparrow and laid five egg-boats; one died after twenty days, after feeding three times and laying three egg-boats, and one died after eighteen days having fed three times and laid two egg-boats. All the others were either lost or were killed accidentally, some after having laid two or three batches of eggs and having lived thirty and thirty-three days. In those that lived as long as thirty and thirty-three days the time between feeding and laying the eggs was more than five days and in one case was as long as fourteen days. In all these experiments a male was kept with the female during feeding as well as before and after.

Another experiment was tried to see if the female will lay eggs if fed apart from the male. Ross states in his West African Report that the female will not lay eggs unless fed in the presence of the male, that is, that fertilisation takes place after feeding. If the meal of blood is required for the nutrition of the eggs it would seem more reasonable to suppose that the insect's instinct would be to seek the

animal food after fertilisation, not before. To decide this point ten females were put alone in the net with the sparrows, all having previously been with males. Of these ten, only four fed, and these four were removed to another cage. They were watched from day to day, and it was noticed that the blood gradually disappeared from the abdomen, which in all but one assumed the white opaque appearance generally characteristic of mosquitos which are going to lay eggs. In the exception, the abdomen looked transparent and empty. Six days passed and no eggs were laid, and on the seventh day, no mosquitos could be found at all and there were no egg-boats. No dead mosquitos were found either. So that the experiment failed.

Later on, the same experiment was tried with two mosquitos one of which was lost, while the other laid eggs on the fifth day.

The eggs are generally laid at night, and the following night the larvæ hatch out. Some mosquitos were reared from the egg in the laboratory: the larval stage lasted at least twenty days, and the pupal stage four days. The larvæ and pupæ were very small and the mosquito was only a third or fourth the size of those reared naturally out of doors, while some of the larvæ reared in the Museum had not changed to pupæ as late as forty-seven days after the eggs were laid. It was found that dessication of the egg-boat for one day was generally sufficient to prevent the larvæ from hatching out though one or two larvæ did hatch out of an egg-boat which had been dried for six days.

The egg-boat has been described so often that it is unnecessary to go through its description again. There is, however, one part of the individual egg which has never been described and that is the structure forming part of the lid. This is best seen in the egg obtained by dissection of the gravid female mosquito, but only after it has reached a fair size, that is two or three days after the insect has fed. The eggs so obtained will be seen to be capped at the larger end by a transparent dome-shaped structure which is a continuation of the shell of the egg, but not of its whole thickness. It is a very delicate structure and gets damaged very easily. The whole cap is easily broken off and for this reason is rarely seen in eggs after they have been laid, as the caps get broken off in removing them from the water. The function of this cap is probably to act as a float, and to keep that end of the egg in contact with the water. Inside and at the base of this dome-shaped cap and in contact with the end of the egg is another peculiar structure. This is a cup-shaped cell, with a hole or depression in the centre, which fits on to a projection at the end of the egg shell, and radiating filaments at the circumference which turn up into the float

cap and lie in contact with the sides of it. When the float cap breaks, the cup-shaped cell comes away and becomes flattened out and then looks like a star. The end of the egg shell itself which forms the lid is ornamented with what appears to be radiating knobs, larger at the centre than at the circumference. The lid of the egg can be well seen in an empty egg-boat. The egg-boat when empty presents a very different appearance from that when it is full. To the naked eye the latter looks compact and neat, whereas the former has an untidy and rough appearance; it is also lighter in colour than the other. Under a magnifying glass the eggs of the empty boat are seen to be opened at the large end which rests on the water, and the lids of the eggs forming the sides and ends of the boat can be plainly seen as they lie open at right angles to the length of the egg and the ornamentation of the lid is well shown. If the unhatched egg-boat is taken from the water and left on a slide till it has become dry, and then removed, a pattern is seen on the slide formed by the star-shaped bodies which have become detached from the ends of the eggs and are stuck to the glass.



PROCEEDINGS
OF THE
ASIATIC SOCIETY OF BENGAL.
FOR NOVEMBER, 1901.

The Monthly General Meeting of the Society was held on Wednesday, the 6th November, 1901, at 9 P.M.

THE HON. MR. C. W. BOLTON, C.S.I., Vice-President, in the chair.

The following members were present :—

Major A. Alcock, I.M.S., Mr. C. G. H. Allen, Major W. J. Buchanan, I.M.S., Mr. I. H. Burkill, Mr. H. D. Carey, Mr. W. K. Dods, The Revd. E. Francotte, S.J., Lt.-Col. G. F. A. Harris, I.M.S., Mr. W. A. Lee, Mr. J. Macfarlane, Mr. H. H. Mann, Mr. Norman McLeod, Mr. L. de Nicéville, Mr. E. B. H. Panton, Captain L. Rogers, I.M.S., Mahamahopadhaya Haraprasad Shastri, and Babu Chunder Narain Singh.

The minutes of the last meeting were read and confirmed.

Thirty presentations were announced.

Kumar Narendra Nath Mitra, Babu Govinda Das, Babu Upendra Nath Sen, Mr. Norman McLeod, Mr. E. B. H. Panton, I.C.S., and Major W. J. Buchanan, I.M.S., were elected Ordinary Members during the recess in accordance with Rule 7.

Mr J. J. Cotton, and Shams-ul-Ulama Mahomed Zakaullah have expressed a wish to withdraw from the Society.

The Secretary reported the death of Dr. A. von Krafft, an Ordinary Member of the Society.

The Chairman announced that in accordance with Rule 38 of the Society's Rules, the names of Dr. Sarat Chandra Laharry, Mr. R. Mitra,

Mr. D. Sunder, and Pandit Mahendra Nath Vidyanidhi had been posted up as defaulting members since the last meeting and will be removed from the Member List.

The General Secretary reported the presentation of the following coins:—

From the Government of N.-W.P., one silver and one copper coin.

From the Madras Government Museum, two silver and two copper coins.

From the Bombay Branch of the Royal Asiatic Society, one gold coin.

Mr. I. H. Burkill exhibited some seedlings of *Eugenia jambolana* from seeds which had passed through the intestine of a Flying-fox.

The following papers were read:—

1. *On Variation in the Flower of Ranunculus arvensis: A study of Flower Symmetry.*—By I. H. BURKILL.

2. *A short notice of a Persian MS. on Gaur.*—By H. BEVERIDGE, I.C.S. (retired).

(Abstract.)

This paper draws attention to a Persian MS. in the India Office Library, containing an account of the buildings and inscriptions at Rajmahal, Gaur, and Panduah. It is the result of local investigations made by Shyām Prasād in November and December, 1810, when he visited Gaur in attendance on Major Francklin. The report was drawn up for Major Francklin and appears to be the source of the information given in Francklin's Journal, of which good use has been made by Mrs. Ravenshaw and Mr. Grote, in Ravenshaw's Gaur. The really new part in Shyām Prasād's report, according to Mr. Beveridge, seems to be his first chapter which gives an account of Rajmahal. Mr. Beveridge recommends the publication of the report.

3. *A short note on the date of the death of Nūr Quṭb 'Alam.*—By H. BEVERIDGE, I.C.S. (retired).

(Abstract.)

Mr. Beveridge was the first to point out that according to a history written some 20 years ago by Ilahi Bakhsh, a school master of Maldah, the death of Nūr Quṭb 'Alam, the famous saint of Panduah, occurred on the 7th Zilgada 818 = A.D. 1416, 8th January. This date fits best

with what history tells about that saint. For he is said to have been a fellow-student with the Bengal King Ghiyasuddin Azam Shah, who was still alive in 814, but must have died soon afterwards. It is accordingly interesting to find the same date recorded in a MS., in the British Museum, called the *Mirat-ul-Asrar*. The only difference, as Mr. Beveridge points out, is that in the latter place the day is the 10TH, instead of the 7th Zilgada.

4. *New species of Indian Hymenoptera.*—By MAJOR C. G. NURSE. Communicated by the Natural History Secretary.

5. *A List of the Butterflies of Hongkong in Southern China and the Food-plants of the larvæ.*—By LIONEL DE NEEVILLE, F.E.S., C.M.Z.S., &c.

6. *Notes on two coins of the Sunga Dynasty.*—By COLONEL C. E. SHEPHERD. Communicated by the Philological Secretary.

(Abstract.)

The coins dealt with in this paper belong to a well-known class of Ancient Indian Copper Coins, which are generally attributed to the so-called Sunga Kings, who ruled in northern India from B.C. 176-66. The two specimens described by Col. Shepherd exhibit two new names, viz., Dhruva Mitra and Rudra Gupta, but nothing beside their names is known with regard to those two Kings.

PROCEEDINGS
OF THE
ASIATIC SOCIETY OF BENGAL.
FOR DECEMBER, 1901.

The Monthly General Meeting of the Society was held on Wednesday, the 4th December 1901, at 9 P.M.

THE HON. MR. C. W. BOLTON, C.S.I., Vice-President, in the chair.

The following members were present :—

Major A. Alcock, I.M.S., Rai Chuni Lal Bose Bahadur, Mr. I. H. Burkill, Mr. B. Chaudhuri, Mr. W. K. Dods, Mr. F. Finn, Major C. R. M. Green, I.M.S., Lieut.-Col. G. F. A. Harris, I.M.S., Mr. D. Hooper, Mr. J. Macfarlane, Mr. H. H. Mann, Mr. Norman McLeod, Mr. R. D. Mehta, Mr. W. H. Miles, Mr. J. D. Nimmo, Mr. F. E. Pargiter, Mr. A. P. Pennell, Captain L. Rogers, I.M.S., Mahamahopadhyaya Haraprasad Shastri, Mr. E. P. Stebbing, Dr. G. Watt.

Visitors :—Mr. E. J. Butler, Mr. A. E. Goodwin, Mr. H. St. John Jackson, Babu Parmeshwar Lall, Mr. Toyabee.

The minutes of the last meeting were read and confirmed.

Forty-eight presentations were announced.

Mr. D. Brainerd Spooner, Dr. W. C. Hossack, and Mr. E. Denison Ross, were ballotted for and elected ordinary members.

The chairman announced :—

1. That Mr. C. A. Radice, Babu Rajchandra Chandra, Kumar Birendra Chandra Singh and Mr. Thos. H. Aquino, elected members of the Society on the 2nd January, 6th March and 5th June 1901, respectively, not having paid their entrance fees, their elections have become null and void under Rule 9.

2. That Mahamahopadhyaya Haraprasad Shastri has taken charge of the duties of the Philological Secretary during Dr. Bloch's absence, on tour.

3. That Mr. J. Macfarlane has taken charge of the duties of the General Secretary in the place of Major A. Alcock, F.R.S., resigned.

The General Secretary reported the death of Surgeon-General R. Harvey and Mr. L. de Nicéville, ordinary members of the Society.

Major Alcock, F.R.S., exhibited the skull of an Indian porcupine, showing abnormal dentition.

The following papers were read :—

1. *Further Notes on the Manipuris.*—By T. C. HODSON. Communicated by the Anthropological Secretary.

2. *Description of some new Species of Orchidææ from North-West and Central India.*—By J. F. DUTHIE, B.A., F.L.S., Director, Botanical Department, North India.

3. *Studies in the Chemistry and Physiology of Tea Leaf. Part I. The Enzymes of the Tea Leaf.*—By HAROLD H. MANN, B.Sc.

4. *Three documents relating to the History of Ladakh. Tibetan Text, Translation and Notes, Part III.*—By the late DR. KARL MARX, Moravian Missionary at Leh-Ladakh. Communicated by the Philological Secretary.

(Abstract).

This is the third paper under this heading, the first being published in 1891 and the second in 1894. The second paper brought the History of Ladakh down to the Dogra conquest in 1822 and the settlement of the country under Wazir Zorawar Singh. The present paper gives the history of the attempts made both by the Tibetans and the Ladakhis to make Ladakh independent. Though at first successful, their combined army had at last to give way before the superior force of the Kāscmīrians. The paper ends with the final settlement of the country under Gulāb Simh, Rājā of Kāscmīre.

5. *On the authenticity of the two newly discovered Manuscripts of the Vallalacarita by Ananda Bhaṭṭa, and their importance in tracing the History of the Caste System in Bengal. Part I.*—By MAHĀMAHOPĀDHYAYĀ HARAPRASĀD SHĀSTRĪ.

(Abstract).

Ballāla Carita means the Biography of Ballāl Sen, the greatest King of the Sen Dynasty in Bengal, in the 12th century. Two com-

plete MSS. have been obtained written in different parts of Burdwan, one in 1707 A.D., the year of Aurangzebe's death, and the other in 1198 of the Bengali era.

The book was composed in 1432 by Ananda Bhaṭṭa, a descendant of Ananta Bhaṭṭa, whom Ballala Sen settled in East Bengal by a grant of land. It was written at the court of Buddhimanta Khan, the Rāja of Navadvipa, a great admirer of Caitanya, who flourished about this time.

Ananda Bhaṭṭa's book is based on three previous works by three writers, contemporaries of Ballala Sen, *viz.*, (1) the Vyāsa Purāṇa by Siṃha Giri, a Ṣaiva monk from Vadarikācrama in the Himālayas, who converted Ballāl into the Ṣaiva faith; (2) Ballāla Carita by Ṣaraṇa Datta, one of the great poets under the same dynasty; (3) Jayamaṅgala Gāthā by Kālidāsa Nandī, mentioned in Baṭu Dāsa's Anthology, compiled in 1205 A.D. The information given in Ananda Bhaṭṭa's work agrees, to a great extent, with the results of modern historical researches, and so it can be accepted as an authentic record of Ballāla's reign.

The present paper ends with the proofs of the authenticity of the work, and in the next paper will be given the caste precedents in Bengal as settled by Ballāla.

6. *A Note on the existence of the Magi, the Median Priesthood in India, at the present day.*—By MAHĀMAHOPĀDHYĀYA HARAPRASĀD SHĀSTRĪ.

(Abstract).

At the end of the enumeration of the subdivisions of the Brāhmaṇa caste in India in the 16th chapter of the Ballāla Carita there occurs a curious verse which translated into English would run thus:—

“The Magas, *i.e.*, Magi, too, are Brāhmaṇas, who issuing from the disc of the Sun and shining like the blazing Sun, dropped in the Ṣakadvipa” ?

There are throughout India Brāhmaṇas known as Ṣaka-dvipi or Ṣakala-dvipi, who like the Magi generally devote themselves to Astrology, Divination, Propitiation of Planetary Deities, and similar subjects. When engaged in their proper work they are respected as Brāhmaṇas, but when not so engaged they are not so regarded.

It is not difficult, therefore, to identify these Ṣaka-dvipi Brāhmaṇas as the Magi of old, and we have the high authority of Siṃha Giri, the Guru of Ballāla, in our support.

Now the question is, when did the Magi come into India, and who they were? They are said to have been Zoroastrian priests, but this statement is to be taken with reservation. In the Gāthās of the Avesta

there is no mention of any Priesthood. In the Yāshnas they are called the Athravans. In the Vendidad, for the first time we find divination, foretelling and other things of similar nature, so repugnant to the founder of the religion, first introduced into the religion of Zoroaster. And this is said to be through the influence of the Magi, who had their home in Western Iran and were strongly imbued with the civilization of Chaldea and Assyria in which astronomy and astrology play an important part.

Some say the Magi were originally Chaldean priests. They were very powerful during the ascendancy of the Medes; under the Persians, too, they retained their influence to such an extent that Herodotus considered them to form the sixth tribe in the empire, with a sacerdotal capital, independent of the control of the Emperor, like Rome of mediæval Europe.

They lost much of their influence during the Greek and Parthian rule of Persia, but under the Sassanides they rose to great power and were organised as a second estate in the realm and were very powerful till the Monarchy and the Church were both swept away in 632 by the Saracen conquest.

During this long interval from 600 B.C. to 632 A.D. the Persians twice came into intimate connection with India, once in the 5th Century B. C. and once in the 5th Century A. D.

Their intimate connection, by conquest, with India in the 5th Century B. C. is attested by various documents discovered by Cunningham and others, and lately by Dr. Stein, in Central Asia, written in their official character, the Kharostṭī, written from right to left—the Urdu of those days.

The story of their intimate relation with Western India in the 5th Century A. D. will be found in the works of Todd and others.

Their Priesthood must have come into India with them during these two periods, and remained behind after the loss of their political power. Their knowledge of Astrology, etc., entitled them to great respect, and they remained as a part and parcel of the Brāhmaṇa caste, though in a qualified way.

Çaka-dvīpa is generally translated by the word Scythia, *i.e.*, lands unknown to the Hindus, as Scythia was the land unknown to the Greeks. It included every region beyond the ken of the Hindus then and included Iran and Turana alike. So there is no difficulty in finding Persians styled as Çaka-Dvīpī by Indians.

I have got a suggestion to make here. Some of these Brāhmaṇas call themselves Çaka-dvīpī, the others Çākala-dvīpī. It appears to me that those who came earlier are known as Çaka-dvīpī, and those

who came later, *i.e.*, after the Indo-Scythians had established their Capital at Çākala in the Punjab, Çākala-dvipis.

In this connection, I should like to mention that Vedic Astronomy concerned itself with the determination of time for sacrifices and so it was purely mathematical, but latterly Hindu Astronomy is said to have three branches: Astronomy, Astrology, and Horoscopy. My theory is that Astronomy, as we had in the Vedic times, was a home development; Astrology we got from the Magi, whose descendants are still *the Astrologers* in India, and Horoscopy has been pronounced by Kern as a Greek art, and I have shown elsewhere that one of the oldest books on Horoscopy is a translation from Greek into Sanskrit.

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LIST OF MEMBERS
OF THE
ASIATIC SOCIETY OF BENGAL,
ON THE 31ST DECEMBER, 1900.

**LIST OF OFFICERS AND MEMBERS OF COUNCIL
OF THE ASIATIC SOCIETY OF BENGAL
FOR THE YEAR 1900.**

President :

His Honor Sir John Woodburn, M.A., K.C.S.I.

Vice-Presidents :

H. H. Risley, Esq., B.A., C.I.E., I.C.S.

Colonel T. H. Hendley, C.I.E., I.M.S.

Major A. Alcock, M.B., C.M.Z.S., I.M.S.

Secretary and Treasurer.

Honorary General Secretary: T. H. Holland, Esq.,
F.G.S., A.R.C.S.

Treasurer: W. K. Dods, Esq.

Additional Secretaries.

Philological Secretary: T. Bloch, Esq., Ph.D.

Natural History Secretary: L. de Nicéville, Esq., F.E.S.,
C.M.Z.S.

Anthropological Secretary: F. E. Pargiter, Esq., B.A.,
I.C.S.

Joint Philological Secretary: Mahamahopadhyaya Hara-
prasad Shastri, M.A.

Other Members of Council.

J. D. Nimmo, Esq.

Dr. Mahendralal Sircar, M.D., D.L., C.I.E.

C. L. Griesbach, Esq., F.G.S., C.I.E.

M. H. Oung, Esq.

A. Pedler, Esq., F.R.S.

G. W. Küchler, Esq., M.A.

S. C. Hill, Esq., B.A., B.Sc.

J. Bathgate, Esq.

F. Finn, Esq., B.A., F.Z.S.

LIST OF ORDINARY MEMBERS.

R. = Resident. N. R. = Non-Resident. A. = Absent. N. S. = Non-Subscribing.
L. M. = Life Member. F. M. = Foreign Member.

N. B.—Members who have changed their residence since the list was drawn up are requested to give intimation of such a change to the Honorary General Secretary, in order that the necessary alteration may be made in the subsequent edition. Errors or omissions in the following list should also be communicated to the Honorary General Secretary.

Members who are about to leave India and do not intend to return are particularly requested to notify to the Honorary General Secretary whether it is their desire to continue Members of the Society; otherwise, in accordance with Rule 40 of the Rules, their names will be removed from the list at the expiration of three years from the time of their leaving India.

Date of Election.		
1899 Feb. 1.	N. R.	Abdul Aziz Khan, Maulvie, B.A. <i>Tirora.</i>
1894 Sept. 27.	N. R.	Abdul Wali, Maulvie. <i>Sailkopa, Jessore District.</i>
1895 May 1.	N. R.	Abdus Salam, Maulvie, M.A. <i>Monghyr.</i>
1888 Feb. 1.	F. M.	Adamson, Lieut.-Col. Charles Henry Ellison, M.S.C. <i>Europe.</i>
1888 April 4.	R.	Ahmud, Shams-ul-ulama Maulvie, Arabic Professor, Presidency College. <i>Calcutta.</i>
1888 Feb. 1.	R.	Alcock, Major Alfred William, M.B., C.M.Z.S., F.G.S., I.M.S., Superintendent, Indian Museum. <i>Calcutta.</i>
1885 Mar. 4.	L. M.	Ali Bilgrami, Sayid, B.A., A.R.S.M., F.G.S. <i>Hyderabad.</i>
1899 Jan. 4.	N. R.	Ali Hussain Khan, Nawab. <i>Bopal.</i>
1900 Aug. 1.	R.	Allen, C. G. H., I.C.S. <i>Calcutta.</i>
1874 June 3.	R.	Ameer Ali, The Hon'ble Mr. Justice, M.A., C.I.E., Barrister-at-Law, Judge, High Court. <i>Calcutta.</i>
1893 Aug. 31.	N. R.	Anderson, Captain A. R. S., B.A., M.B., I.M.S. <i>Port Blair.</i>
1884 Sept. 3.	R.	Anderson, J. A. <i>Calcutta.</i>
1892 Jan. 6.	A.	Arnold, Henry Kerchever Walter. <i>Europe.</i>
1890 July 2.	N. R.	Arnold, Thomas Walker, B.A., M.R.A.S. <i>Lahore.</i>
1872 April 3.	N. R.	Ashan-ullah, Nawab, Khan Bahadur. <i>Dacca.</i>
1870 Feb. 2.	L. M.	Baden-Powell, Baden Henry, M.A., C.I.E. <i>Europe.</i>
1898 Nov. 2.	N. R.	Bailey, The Revd. Thomas Grahame, M.A., B.D. <i>Wazirabad.</i>
1891 Mar. 4.	N. R.	Baillie, D. C., I.C.S. <i>Ghasipur.</i>
1898 Aug. 3.	N. R.	Bain, Lieut.-Col., D. S. E., I.M.S. <i>Merqara.</i>

Date of Election.		
1891 April 1.	N.R.	Baker, Edward Charles Stuart. <i>North Cachar.</i>
1900 Aug. 29.	R.	Baker, The Hon. Mr. E. N., C.S.I., I.C.S. <i>Calcutta.</i>
1889 May 1.	R.	Banerji, The Hon. Mr. Justice Guru Das, M.A., D.L., Judge, High Court. <i>Calcutta.</i>
1896 Mar. 4.	N.R.	Banerji, Satish Chandra, M.A. <i>Allahabad.</i>
1869 Dec. 1.	L.M.	Barker, R. A., M.D. <i>Europe.</i>
1885 Nov. 4.	R.	Barman, Damodar Das. <i>Calcutta.</i>
1877 Jan. 17.	N.R.	Barman, H. H. The Maharaja Radha Kishor Dev. <i>Tipperah.</i>
1898 Mar. 2.	N.R.	Barnes, Herbert Charles, I.C.S. <i>Shillong.</i>
1894 Sept. 27.	R.	Basu, Nagendra Natha. <i>Calcutta.</i>
1898 May 4.	R.	Bathgate, J. <i>Calcutta.</i>
1895 July 3.	L.M.	Beatson-Bell, Nicholas Dodd, B.A., I.C.S. <i>Europe.</i>
1876 Nov. 15.	F.M.	Beveridge, Henry, I.C.S., (retired). <i>Europe.</i>
1900 April 4.	N.R.	Bingley, Captain A. H., I.S.C. <i>Hongkong.</i>
1898 Nov. 2.	F.M.	Black, Robert Greenhill. <i>Europe.</i>
1859 Aug. 3.	L.M.	Blanford, William Thomas, LL.D., A.R.S.M., F.G.S., F.R.G.S., F.Z.S., F.R.S. <i>Europe.</i>
1897 Feb. 3.	R.	Bloch, Theodor, Ph.D. <i>Calcutta.</i>
1893 Feb. 1.	F.M.	Bodding, The Revd. P. O. <i>Europe.</i>
1885 Mar. 4.	R.	Bolton, The Hon. Mr. Charles Walter, C.S.I., I.C.S. <i>Calcutta.</i>
1895 July 3.	N.R.	Bouham-Carter, Norman, I.C.S. <i>Mymensingh.</i>
1890 July 2.	R.	Bonnerjee, Womes Chunder, Barrister-at-Law, Middle Temple. <i>Calcutta.</i>
1900 Sept. 19.	N.R.	Bosanquet, O. V., I.C.S. <i>Indore.</i>
1897 June 2.	R.	Bose, Annada Prasad, M.A. <i>Calcutta</i>
1895 Mar. 6.	A.	Bose, Jagadis Chandra, M.A., D.Sc, Bengal Education Service. <i>Europe.</i>
1880 Nov. 3.	N.R.	Bose, Pramatha Nath, B.Sc., F.G.S. Geological Survey of India. <i>Camp Raipur, C.I.</i>
1900 Jan. 19.	R.	Bose, Rai Chuni Lal, Bahadur, M.B., F.C.S. <i>Calcutta.</i>
1895 April 3.	R.	Bourdillon, James Austin, C.S.I., I.C.S. <i>Calcutta.</i>
1860 Mar. 7.	L.M.	Brandis, Sir Dietrich, K.C.I.E., Ph.D., F.L.S., F.R.S. <i>Europe.</i>
1900 Aug. 1.	R.	Brown, Major E. Harold, M.D., I.M.S. <i>Calcutta.</i>
1887 May 4.	R.	Bural, Nobin Chaud, Solicitor. <i>Calcutta.</i>
1896 Jan. 8.	N.R.	Burn, Richard, I.C.S. <i>Allahabad.</i>
1900 May 2.	N.R.	Butcher, Flora, M.D. <i>Pulwal.</i>
1898 Sept. 30.	R.	Cable, Ernest. <i>Calcutta.</i>
1896 Jan. 8.	R.	Caddy, Dr. Arnold. <i>Calcutta.</i>
1895 July 3.	A.	Carey, Hirzel Denis de Mussenden, I.C.S. <i>Europe.</i>
1895 July 3.	N.R.	Carlyle, Robert Warrant, C.I.E., I.C.S. <i>Balasure.</i>
1896 Nov. 4.	A.	Cave-Browne, J. A., I.C.S. <i>Europe.</i>
1890 June 4.	N.R.	Chakravarti, Man Mohan, M.A., B.L., Deputy Magistrate. <i>Midnapur.</i>
1898 Nov. 2.	R.	Chatterjee, Kishori Mohan, Judge, Court of Small Causes. <i>Calcutta.</i>

Date of Election.		
1894 Aug. 1.	N.R.	Chatterjee, M. N. <i>Patiala.</i>
1892 Aug. 3.	N.R.	Chaube, Behary Lall. <i>Bankipur.</i>
1893 Sept. 28.	R.	Chaudhuri, Banawari Lala, B.Sc. <i>Edin. Calcutta.</i>
1899 Jan. 4.	A.	Clemow, Dr. Frank Gerard, M.D., <i>Edin. D.P.H., Camb. Europe.</i>
1880 Aug. 26.	F.M.	Clerk, Colonel Malcolm G. <i>Europe.</i>
1881 May 4.	N.R.	Cockburn, John, Opium Department. <i>Cawnpore.</i>
1849 Nov. 6.	R.	Colville, William Brown. <i>Calcutta.</i>
1890 Dec. 3.	A.	Connau, William, C.E. <i>Europe.</i>
1898 June 1.	F.M.	Cordier, Dr. Palmyr. <i>Europe.</i>
1899 Feb. 1.	N.R.	Cotton, Julian James, B.A., I.C.S. <i>Madras.</i>
1876 Mar. 1.	F.M.	Crawford, James, B.A., I.C.S. <i>Europe.</i>
1887 Aug. 25.	R.	Criper, William Risdon, F.C.S., F.I.C., A.R.S.M. <i>Calcutta.</i>
1877 June 6.	A.	Croft, Sir Alfred W., M.A., K.C.I.E. <i>Europe.</i>
1895 July 3.	A.	Cumming, John Ghest, I.C.S. <i>Europe.</i>
1898 Aug. 26.	N.R.	Cuppige, Captain W. A., I.S.C. <i>Dibrugarh.</i>
1873 Dec. 3.	F.M.	Dames, Mansel Longworth, I.C.S. <i>Europe.</i>
1896 Mar. 4.	R.	Das-Gupta, Jogendra Nath, B.A., Barrister-at-Law. <i>Calcutta.</i>
1865 June 7.	N.R.	Das, Raja Jay Krishna, Bahadur, C.S.I. <i>Moradabad.</i>
1879 April 7.	N.R.	Das, Ram Saran, M.A., Secy., Oudh Commercial Bank, Limited. <i>Fyzabad, Oudh.</i>
1900 July 4.	N.R.	Das, Syam Sunder, B.A. <i>Benares.</i>
1896 Dec. 2.	A.	Davis, Arthur William, I.C.S. <i>Europe.</i>
1895 Sept. 19.	N.R.	De, Kiran Chandra, B.A., I.C.S. <i>Faridpur.</i>
1895 Dec. 4.	N.R.	Delmerick, Charles Swift. <i>Budaon.</i>
1893 Mar. 1.	A.	Deussen, Dr. Paul. <i>Europe.</i>
1900 May 2.	N.R.	Dev, Kumar Satindra, Rai Mahesaya. <i>Bansberia.</i>
1899 Aug. 30.	N.R.	Dev, Raj Kumar Satchidanand, Bahadur. <i>Deogarh, Sambalpur.</i>
1896 Jan. 8.	N.R.	Dewhurst, R. Paget., I.C.S. <i>Naini Tal.</i>
1899 Aug. 30.	R.	Dods, W. <i>Calcutta.</i>
1898 Jan. 5.	R.	Dods, W. K. <i>Calcutta.</i>
1886 June 2.	R.	Doyle, Patrick, C.E., F.R.A.S., F.R.S.E., F.G.S. <i>Calcutta.</i>
1892 Sept. 22.	R.	Drury, Major Francis James, M.B., I.M.S. <i>Calcutta.</i>
1889 Jan. 2.	N.R.	Dudgeon, Gerald Cecil, Holta Tea Co., Ltd., <i>Palam-pur.</i>
1879 Feb. 5.	N.R.	Duthie, J. F., B.A., F.L.S. <i>Saharanpur.</i>
1892 Jan. 6.	N.R.	Dutt, Gerindra Nath. <i>Hatwa.</i>
1877 Aug. 30.	R.	Dutt, Kedar Nath. <i>Calcutta.</i>
1892 Aug. 25.	R.	Dutt, Rai Narsingh Chunder, Bahadur. <i>Honwah.</i>
1890 Sept. 25.	A.	Dutt, Romesh Chunder, C.I.E., I.C.S. (retired), Barrister-at-Law, Middle Temple. <i>Europe.</i>
1900 April 4.	R.	Dyson, Major Herbert Jekyl, F.R.C.S., I.M.S. <i>Calcutta.</i>

Date of Election.		
1900 July 4.	N.R.	Earle, A., I.C.S. <i>Darjeeling.</i>
1871 Dec. 2.	N.R.	Eliot, John, M.A., C.I.E., F.R.S. <i>Simla.</i>
1900 April 4.	R.	Evans, The Hon. Sir Griffith, K.C.I.E. <i>Calcutta.</i>
1900 Mar. 7.	R.	Fanshawe, Arthur Upton, C.S.I., I.C.S. <i>Calcutta.</i>
1900 Aug. 29.	N.R.	Fanshawe, The Hon. Mr. H. C., C.S.I., I.C.S. <i>Delhi.</i>
1899 Jan. 4.	A.	Ferrar, Lieutenant, M. LL., I.S.C. <i>Europe.</i>
1894 Dec. 5.	R.	Finn, Frank, B.A., F.Z.S., Deputy Superintendent, Indian Museum. <i>Calcutta.</i>
1898 Sept. 30.	R.	Firminger, The Revd. Walter K., M.A. <i>Barrackpur.</i>
1892 May 4.	A.	Forrest, G. W., B.A. <i>Europe.</i>
1900 Dec. 5.	N.R.	Gabriel, E. V., I.C.S. <i>Begu Serai.</i>
1893 Jan. 11.	R.	Gait, Edward Albert, I.C.S. <i>Howrah.</i>
1899 Aug. 30.	R.	Garth, Dr. H. C. <i>Calcutta.</i>
1859 Aug. 3.	L.M.	Gastrell, General James Eardley. <i>Europe.</i>
1889 Jan. 2.	R.	Ghose, Jogendra Chandra, M.A., B.L. <i>Calcutta.</i>
1889 Mar. 6.	R.	Ghosha, Bhupendra Sri, B.A., B.L. <i>Calcutta.</i>
1869 Feb. 3.	R.	Ghosha, Pratapa Chandra, B.A. <i>Calcutta.</i>
1897 Dec. 6.	A.	Godfrey, Captain Stuart, I.S.C. <i>Europe.</i>
1861 Feb. 5.	N.S.	Godwin-Austen, Lieut.-Colonel H. H., F.R.S., F.Z.S., F.R.G.S. <i>Europe.</i>
1899 Aug. 2.	R.	Goenka, Roomall. <i>Calcutta.</i>
1890 Aug. 6.	R.	Goethals, The Most Revd. Paul, D.D., S.J., Arch- bishop. <i>Calcutta.</i>
1896 Nov. 4.	F.M.	Grant, A. J., I.C.S. <i>Europe.</i>
1897 July 7.	N.R.	Grant, Captain J. W., I.M.S. <i>Sirohee.</i>
1898 Aug. 3.	N.R.	Green, Major Charles Robert Mortimer, F.R.C.S. I.M.S. <i>Muzaffarpur.</i>
1876 Nov. 15.	F.M.	Grierson, George Abraham, PH.D., C.I.E., I.C.S. <i>Europe.</i>
1885 Dec. 2.	R.	Griesbach, C. L., C.I.E., F.G.S., Director, Geological Survey of India. <i>Calcutta.</i>
1900 Dec. 5.	L.M.	Grieve, J. W. A. <i>Kalimpong.</i>
1898 June 1.	R.	Gupta, Bepin Behari. <i>Calcutta.</i>
1898 April 6.	R.	Gupta, Krishna Govinda, I.C.S., Barrister-at-Law. <i>Calcutta.</i>
1898 Jan. 5.	N.R.	Gurdon, Captain P. R. T., I.S.C. <i>Gauhati.</i>
1892 Jan. 6.	N.R.	Haig, Captain Wolseley, I.S.C. <i>Berar.</i>
1899 April 5.	N.R.	Hare, Major E. C., I.M.S. <i>Gauhati.</i>
1900 April 4.	R.	Harvey, Surgeon-General Robert, M.D., LL.D., F.R.C.P., C.B., D.S.O. <i>Calcutta.</i>
1884 Mar. 5.	L.M.	Hassan Ali Qadr, Sir Synd, Nawab Bahadur, K.C.I.E. <i>Murshedabad.</i>
1898 Feb. 2.	R.	Havell, Ernest Binfield. <i>Calcutta.</i>
1897 Feb. 3.	R.	Hayden, H. H., B.A., B.E., F.G.S., Geological Survey of India. <i>Calcutta.</i>

Date of Election.	
1875 Mar. 3.	B. Hendley, Col. Thomas Holbein, C.I.E., I.M.S., Inspector General of Civil Hospitals, Bengal. <i>Calcutta.</i>
1892 Aug. 3.	R. Hill, Samuel Charles, B.A., B.Sc. <i>Calcutta.</i>
1872 Dec. 5.	A. Hoernle, Augustus Frederick Rudolf, PH.D., C.I.E. <i>Europe.</i>
1878 Mar. 6.	A. Hoey, W., PH.D., I.C.S., (retired). <i>Europe.</i>
1891 July 1.	R. Holland, Thomas Henry, F.G.S., A.R.C.S., Geological Survey of India. <i>Calcutta.</i>
1898 Feb. 2.	R. Hooper, David, F.C.S. <i>Calcutta.</i>
1884 Mar. 5.	N.R. Hooper, The Hon. Mr. John, B.A., I.C.S. <i>Allahabad. N.-W.P.</i>
1873 Jan. 2.	L.M. Houston, G. L., F.G.S. <i>Europe.</i>
1890 Dec. 3.	N.R. Hyde, The Revd. Henry Barry, M.A. <i>Madras.</i>
1866 Mar. 7.	F.M. Irvine, William, I.C.S., (retired). <i>Europe.</i>
1899 April 5.	R. Kempthorne, H. E. <i>Calcutta.</i>
1882 Mar. 1.	N.R. Kennedy, Pringle, M.A. <i>Mozufferpur.</i>
1867 Dec. 4.	A. King, Sir George, M.B., K.C.I.E., LL.D., F.L.S., I.M.S., (retired). <i>Europe.</i>
1881 Mar. 2.	F.M. King, Lucas White, B.A., LL.B., C.S.I., I.C.S. <i>Europe.</i>
1896 Aug. 27.	A. Konstam, Edwin Max, I.C.S. <i>Europe.</i>
1900 Jan. 17.	R. Krafft, Albrecht von, PH.D., Geological Survey of India. <i>Calcutta.</i>
1896 July 1.	R. Kuchler, George William, M.A. <i>Calcutta.</i>
1891 Feb. 4.	N.R. Kupper, Raja Lala Bunbehari. <i>Burdwan.</i>
1893 July 1.	R. Laharry, Sarat Chandra, PH.D. <i>Calcutta.</i>
1899 Aug. 30.	N.R. Lal, Dr. Mannu. <i>Banda.</i>
1887 May 4.	L.M. Lanman, Charles R. <i>Europe.</i>
1889 Mar. 6.	N.R. LaTouche, Thomas Henry Digges, M.A., Geological Survey of India. <i>Maymyo.</i>
1900 Sep. 19.	N.R. Law, The Hon. Sir Edward F. G., K.C.M.G. <i>Calcutta.</i>
1889 Nov. 6.	R. Lee, W. A., F.R.M.S. <i>Calcutta.</i>
1900 May 2.	R. Leistikow, F. R. <i>Calcutta.</i>
1889 Feb. 6.	R. Little, Charles, M.A., Bengal Education Service. <i>Calcutta.</i>
1899 Dec. 6.	N.R. Lorimer, J. G., I.C.S. <i>Malakhand.</i>
1869 July 7.	F.M. Lyall, Sir Charles James, M.A., K.C.S.I., C.I.E., LL.D., I.C.S., (retired). <i>Europe.</i>
1870 April 7.	L.M. Lyman, B. Smith. <i>Europe.</i>
1896 Mar. 4.	N.R. MacBlaine, Frederick, I.C.S. <i>Purneah.</i>
1893 Jan. 11.	L.M. MacLagan, E. D., M.A., I.C.S. <i>Multan.</i>
1891 Feb. 4.	R. Macpherson, Duncan James, M.A., C.I.E., I.C.S. <i>Calcutta.</i>
1896 Feb. 5.	N.R. Macpherson, William Charles, I.C.S. <i>Bankipore.</i>
1893 Aug. 31.	N.R. Mahatha, Purneshwar Narain. <i>Mozufferpur.</i>
1900 Oct. 31.	R. Mahomed, Abdulla, M.A. <i>Calcutta.</i>

Date of Election.		
1895 Aug. 29.	R.	Mahomed Gilani, Shams-ul-Ulama Shaikh. <i>Calcutta.</i>
1886 Jan. 6.	N.R.	Mahomed Latif Khan, Sayid, Khan Bahadur. <i>Gujranwala.</i>
1898 Nov. 2.	N.R.	Maitra, Akshaya Kumar, B.A., B.L. <i>Rajshahi.</i>
1889 Jan. 2.	R.	Maliah, Kumar Rameswar. <i>Howrah.</i>
1893 July 5.	F.M.	Mangos, C. D. <i>Europe.</i>
1889 Mar. 6.	A.	Mann, John, M.A. <i>Europe.</i>
1893 Mar. 1.	A.	Marriott, Charles Richardson, I.C.S. <i>Europe.</i>
1892 April 6.	A.	Maynard, Major F. P., I.M.S. <i>Europe.</i>
1900 May 2.	N.R.	McArdle, Captain Andrew Augustine Frayne, B.A., M.B., I.M.S. <i>Bombay.</i>
1899 Feb. 1.	N.R.	McMahon, Captain A. H., C.S.I., C.I.E., I.S.C. <i>Malakhanda.</i>
1899 Mar. 1.	N.R.	McMinn, C. W., B.A., I.C.S., (retired). <i>Comilla.</i>
1886 Mar. 3.	L.M.	Mehta, Rustomjee Dhunjeebhoy, C.I.E. <i>Calcutta.</i>
1895 July 3.	N.R.	Melitus, Paul Gregory, C.I.E., I.C.S. <i>Shillong.</i>
1900 Mar. 7.	R.	Meyer, William Stevenson, I.C.S. <i>Calcutta.</i>
1900 Jan. 19.	R.	Michie, Charles. <i>Calcutta.</i>
1884 Nov. 5.	A.	Middlemiss, C. S., B.A., Geological Survey of India. <i>Europe.</i>
1884 Sept. 3.	R.	Miles, William Harry. <i>Calcutta.</i>
1870 July 6.	R.	Miller, Albert Bermingham., B.A., Barrister-at-Law, Official Trustee. <i>Calcutta.</i>
1898 April 6.	R.	Milne, Captain C. J., I.M.S. <i>Calcutta.</i>
1874 May 6.	A.	Minchin, F. J. V. <i>Europe.</i>
1896 July 1.	N.R.	Misra, Rai Lakshmi Sanker, Bahadur. <i>Benares.</i>
1897 Jan. 6.	N.R.	Misra, Tulsi Ram. <i>Barielly.</i>
1899 Mar. 1.	R.	Mitra, J. C., M.A., B.L. <i>Calcutta.</i>
1895 Mar. 6.	N.R.	Mitra, Rajeswar. <i>Nagpur.</i>
1897 Nov. 3.	R.	Mitra, Saroda Churan, M.A., B.L. <i>Calcutta.</i>
1895 July 3.	N.R.	Monahan, Francis John, I.C.S. <i>Shillong.</i>
1898 May 4.	R.	Mookerjee, R. N. <i>Calcutta.</i>
1898 Sept. 30.	R.	Moore, The Revd. Herbert Octavius, M.A. <i>Calcutta.</i>
1879 May 7.	A.	Muir, J. W., M. A., I. C. S., (retired). <i>Europe.</i>
1894 Aug. 30.	R.	Mukerjee, Sib Narayan. <i>Uttarpara.</i>
1900 May 2.	R.	Mukerji, Phani Bhushan, B.S.C. <i>Calcutta.</i>
1899 Sept. 29.	R.	Mukharji, Jotindra Nath, B.A. <i>Calcutta.</i>
1886 May 5.	R.	Mukhopadhyaya, The Hon. Dr. Asutosh, M.A., D.L., F.R.A.S., F.R.S.E. <i>Calcutta.</i>
1892 Dec. 7.	R.	Mukhopadhyaya, Panchanana. <i>Calcutta.</i>
1896 April 1.	R.	Mullick, Sham Lall. <i>Calcutta.</i>
1885 June 3.	N.R.	Naemwoollah, Maulvie, Deputy Magistrate. <i>Etawah.</i>
1881 Nov. 2.	R.	Nicéville, Lionel de, F.E.S., C.M.Z.S. <i>Calcutta.</i>
1900 Dec. 5.	R.	Nicoll, John. <i>Calcutta.</i>
1889 Aug. 29.	L.M.	Nimmo, John Duncan. <i>Calcutta.</i>
1892 Oct. 27.	F.M.	Norvill, Dr. Frederic H. <i>Europe.</i>
1885 Feb. 4.	N.R.	Nyayaratna, Mahamahopadhyaya Mahesa Chandra, C.I.E. <i>Benares.</i>

Date of Election.		
1899 Jan. 7.	N.R.	O'Brien, P. H., I.C.S. <i>Purneah.</i>
1900 Dec. 5.	N.R.	O'Connor, Captain W. F., B.A. <i>Kashmir.</i>
1900 Aug. 29.	N.R.	O'Dwyer, Michael Francis, B.A., I.C.S. <i>Alwar.</i>
1880 Dec. 1.	A.	Oldham, R. D., A.R.S.M., F.G.S., Geological Survey of India. <i>Europe.</i>
1883 Aug. 30.	F.M.	Oliver, Edw. Emmerson, M.I.C.B. <i>Europe.</i>
1887 July 6.	N.R.	Oung, Mounng Hla. <i>Rangoon.</i>
1880 Aug. 4.	L.M.	Pandia, Pandit Mohanlall Vishnulall, F.T.S., <i>Muttra.</i>
1880 Jan. 7.	R.	Pargiter, Frederick Eden, B.A., I.C.S. <i>Calcutta.</i>
1899 Aug. 2.	N.R.	Peake, C. W., M.A., Bengal Education Service. <i>Bankipur.</i>
1873 Aug. 6.	R.	Pedler, Alexander, F.R.S., Director of Public Instruction, Bengal. <i>Calcutta.</i>
1888 June 6.	L.M.	Pennell, Aubray Percival, B.A., I.C.S. <i>Europe.</i>
1881 Aug. 25.	R.	Percival, Hugh Melville, M.A., Bengal Education Service. <i>Calcutta.</i>
1877 Aug. 1.	N.R.	Peters, Lieut.-Colonel C. T., M.B., I.M.S. <i>Bombay.</i>
1889 Nov. 6.	N.R.	Phillott, Capt. D. C., I.S.C. <i>Kohat.</i>
1896 Jan. 8.	F.M.	Place, George William, B.A., LL.B., I.C.S. <i>Europe.</i>
1889 Mar. 6.	R.	Prain, Major David, M.A., M.B., LL.D., I.M.S., Royal Botanic Garden. <i>Sibpur.</i>
1889 Mar. 6.	N.R.	Prasad, Hanuman, Raes and Zemindar. <i>Chunar.</i>
1896 Sept. 25.	N.R.	Pringle, A. T. <i>Madras.</i>
1880 April 7.	N.R.	Rai, Bipina Chandra, B.L. <i>Jessore.</i>
1895 Aug. 29.	N.R.	Rai, Jatindra Nath Chaudhery, M.A., B.L. <i>Taki.</i>
1900 April 4.	R.	Raleigh, The Hon. Mr. T. <i>Calcutta.</i>
1898 Aug. 3.	N.R.	Ram, Sita, M.A. <i>Cawnpore.</i>
1890 Mar. 5.	R.	Ray, Prafulla Chandra, D.Sc., Bengal Education Service. <i>Calcutta.</i>
1887 May 4.	B.	Ray, Prasanna Kumar, D.Sc. (Lond. and Edin.), Bengal Education Service. <i>Calcutta.</i>
1900 Sept. 19.	R.	Reader, G. F. <i>Calcutta.</i>
1884 Mar. 5.	R.	Risley, Herbert Hope, B.A., O.I.E., I.C.S. <i>Calcutta.</i>
1900 April 4.	R.	Rogers, Captain Leonard, M.D., B.Sc., M.R.C.P., F.R.C.S. I.M.S. <i>Calcutta.</i>
1900 Aug. 29.	N.R.	Rose, H. A., I.C.S. <i>Lahore.</i>
1896 Dec. 2.	N.R.	Row, B. Suryanaran, B.A. <i>Bellary.</i>
1895 Mar. 6.	A.	Rowe, Frederick James, M.A. <i>Europe.</i>
1889 June 5.	N.R.	Roy, Maharaja Girjanath. <i>Dinagepur.</i>
1885 Mar. 4.	R.	Rustomjee, Harjeebhoy Manickjee. <i>Calcutta.</i>
1896 Aug. 27.	N.R.	Samman, Herbert Frederick, I.C.S. <i>Barisal.</i>
1899 June 7.	N.R.	Sarkar, Chandra Kumar. <i>Benares.</i>
1898 Mar. 2.	N.R.	Sarkar, Jadu Nath. <i>Bankipur.</i>
1897 Nov. 3.	R.	Saunders, C. <i>Calcutta.</i>
1900 Dec. 5.	R.	Schwaiger, Imre George. <i>Calcutta.</i>
1893 Jan. 11.	L.M.	Scindia, His Highness the Maharaja. <i>Gwalior.</i>

Date of Election.		
1899 Mar. 1.	R.	Scott, Lientenant Bernard, I.S.C. <i>Barrackpore.</i>
1900 Dec. 5.	N.R.	Sen, Birendra Chandra, I.C.S. <i>Bogra.</i>
1885 April 1.	R.	Sen, Yndu Nath. <i>Calcutta.</i>
1897 Dec. 1.	R.	Seth, M. J. <i>Calcutta.</i>
1900 Mar. 7.	R.	Shastree, Pandit Yogesha Chandra <i>Calcutta.</i>
1885 Feb. 4.	R.	Shastri, Mahamahopadhaya Haraprasad, M.A. <i>Calcutta.</i>
1894 June 6.	N.R.	Shibli Nomani, Shams-ul-Ulama Maulvie Muhammad, Professor of Arabic in the Muhammadan Oriental College. <i>Aligarh.</i>
1891 June 3.	A.	Shillingford, Frederick Alexander. <i>Europe.</i>
1900 May 2.	R.	Shrager, Adolphe. <i>Calcutta.</i>
1899 May 3.	N.R.	Silberrad, Chas. A., I.C.S. <i>Lalitpur, Bundelkhand.</i>
1887 April 6.	A.	Simpson, Dr. W. J. <i>Europe.</i>
1893 Mar. 1.	N.R.	Singh, Maharaja Kumara Sirdar Bharat, I.C.S. <i>Ghazipur.</i>
1880 June 2.	N.R.	Singh, Thakur Garuradhawaya Prasad, Raja of Beswan. <i>Beswan Fort, Aligarh.</i>
1895 Aug. 29.	R.	Singh, Lachmi Narayan, M.A., B.L. <i>Calcutta.</i>
1892 Mar. 2.	L.M.	Singh, The Hon. Raja Ooday Pratab. <i>Binga.</i>
1889 Aug. 29.	N.R.	Singh, H. H. The Maharaja Prabhu Naraiu, Bahadur. <i>Benares.</i>
1892 Aug. 3.	N.R.	Singh, H. H. The Hon. Maharaja Pratap Narain. <i>Ajodhya, Oudh.</i>
1895 Aug. 29.	N.R.	Singh, Ram Din. <i>Bankipur.</i>
1889 Nov. 6.	N.R.	Singh, H. H. The Hon. Maharaja Rameshwara, Bahadur. <i>Darbhanga.</i>
1894 Feb. 7.	N.R.	Singh, H. H. Raja Vishwa Nath, Bahadur, Chief of Chhatarpur.
1894 July 4.	N.B.	Sinha, Kunwar Kushal Pal, M.A. <i>Narki P.O., Agra District.</i>
1899 June 7.	N.R.	Sinha, Purnenda Narayan. <i>Bankipur.</i>
1867 April 3.	R.	Sircar, Dr. Mahendra Lal, M.D., C.I.E., D.L. <i>Calcutta.</i>
1897 Jan. 6.	R.	Sircar, Amrita Lal, F.C.S. <i>Calcutta.</i>
1872 Aug. 5.	N.R.	Skrefsrud, The Revd. Laurentius Olavi. <i>Rampur Hat.</i>
1874 June 3.	F.M.	Smith, Vincent Arthur, I.C.S. <i>Europe.</i>
1899 Nov. 1.	N.R.	Srivastava, Lala Shyam Sunder Lal. <i>Pertabgarh.</i>
1898 April 6.	R.	Stark, Herbert, B.A. <i>Calcutta.</i>
1891 Aug. 27.	N.R.	Stein, M. A., Ph.D. <i>Kashmir.</i>
1895 July 5.	N.R.	Steinberg, Alfred Frederick, I.C.S. <i>Rampur Boalia.</i>
1899 Aug. 30.	R.	Stephen, St. John, B.A., LL.B. <i>Calcutta.</i>
1900 Aug. 29.	N.R.	Stephenson, Captain John, I.M.S. <i>Edwardesabad.</i>
1898 June 1.	N.R.	Sunder, Donald. <i>Patna.</i>
1899 Mar. 1.	R.	Tocher, A. <i>Calcutta.</i>
1868 June 3.	R.	Tagore, The Hon. Maharaja Sir Jotendra Mohun, Bahadur, K.C.S.I. <i>Calcutta.</i>
1898 April 6.	B.	Tagore, Maharaja Prodyat Coomar. <i>Calcutta.</i>

Date of Election.		
1897 Dec. 1.	N.R.	Talbot, W. A. <i>Belgaum.</i>
1893 Aug. 31.	N.R.	Tate, G. P., Survey of India. <i>Hongkong.</i>
1878 June 5.	N.R.	Temple, Lieut-Col. Richard Carnao, C.I.E.; I.S.O. <i>Port Blair.</i>
1875 June 2.	N.R.	Thibant, Dr. G., Muir Central College. <i>Allahabad.</i>
1898 Nov. 2.	R.	Thornton, Edward, A.R.I.B.A. <i>Calcutta.</i>
1847 June 2.	L.M.	Thuillier, Lieut-Genl. Sir Henry Edward Landor, KT., C.S.I., F.R.S., R.A. <i>Europe.</i>
1891 Aug. 27.	N.R.	Thurston, Edgar. <i>Madras.</i>
1871 April 5.	A.	Treffitz, Oscar. <i>Europe.</i>
1861 June 5.	L.M.	Tremlett, James Dyer, M.A., I.C.S., (retired). <i>Europe.</i>
1893 May 3.	N.R.	Vandja, Raja Ram Chandra. <i>Mayurbhanga,</i> <i>District Balasore.</i>
1898 Feb. 2.	R.	Vasu, Amrita Lal. <i>Calcutta.</i>
1900 Aug. 29.	N.R.	Vaughan, Major J. C., I.M.S. <i>Burdwan.</i>
1890 Feb. 5.	N.R.	Venis, Arthur, M.A., Principal, Sanskrit College. <i>Benares</i>
1896 May 6.	N.R.	Vidyanidhi, Mahendra Nath. <i>Krishnagar.</i>
1894 Sept. 27.	L.M.	Vost, Major William, I.M.S. <i>Juunpur.</i>
1895 July 5.	N.R.	Waddell, Major Lawrence Austine, M.B., LL.D., I.M.S. <i>Hongkong.</i>
1900 Jan. 19.	R.	Wallace, David Robb. <i>Calcutta.</i>
1889 Nov. 6.	N.R.	Walsh, Major John Henry Tull, I.M.S. <i>Murshidabad.</i>
1900 April 4.	N.R.	Walton, Captain Herbert James, M.B., F.R.C.S., I.M.S. <i>Bombay.</i>
1865 May 3.	A.	Waterhouse, Major-General James, I.S.C., (retired). <i>Europe.</i>
1874 July 1.	R.	Watt, Dr. George, C.I.E. <i>Calcutta.</i>
1899 Sept. 29.	R.	Weldon, The Most Revd. James Edward Cowell, D.D., Lord Bishop of Calcutta; Metropolitan of India and Ceylon. <i>Calcutta.</i>
1896 Feb. 5.	N.R.	Williams, Captain Charles E., I.M.S. <i>Tounggyi, S.</i> <i>Shan States, Burma.</i>
1891 May 6.	N.R.	Wilson, Charles Robert, M.A., Bengal Education Service. <i>Bankipur.</i>
1899 Aug. 30.	R.	Wood, E. Seymour, F.G.S. <i>Calcutta.</i>
1892 Jan. 6.	R.	Woodburn, The Hon. Sir John, M.A., K.C.S.I., I.C.S. <i>Calcutta.</i>
1900 Dec. 5.	N.R.	Woodman, H. C., I.C.S. <i>Jalpuiguri.</i>
1894 Sept. 27.	R.	Wooltrotte, John George, Bar-at-Law. <i>Calcutta</i>
1894 Aug. 30.	N.R.	Wright, Henry Nelson, B.A., I.C.S. <i>Allahabad.</i>
1898 July 6.	R.	Wyness, James, C.E. <i>Calcutta.</i>
1897 Jan. 6.	N.R.	Zaka-ullah, Shams-ul-Ulama Muhammed. <i>Dekh.</i>

SPECIAL HONORARY CENTENARY MEMBERS.

Date of Election.	
1884 Jan. 15.	Dr. Ernst Haeckel, Professor in the University of Jena.
1884 Jan. 15.	Charles Meldrum, Esq., C.M.G., M.A., LL.D., F.R.A.S., F.R.S. <i>Mauritius.</i>
1884 Jan. 15.	Professor A. H. Sayce, Professor of Comp. Philology. <i>Oxford.</i>
1884 Jan. 15.	Professor Emile Senart, Member of the Institute of France. <i>Paris.</i>

HONORARY MEMBERS.

1848 Feb. 2.	Sir Joseph Dalton Hooker, G.C.S.I., C.B., M.D., D.C.L., LL.D., F.L.S., F.G.S., F.R.G.S., F.R.S. <i>Berkshire.</i>
1860 Nov. 7.	Dr. Albrecht Weber. <i>Berlin.</i>
1875 Nov. 3.	Dr. Otto von Böhtlingk. <i>Leipzig.</i>
1879 June 4.	Professor Edward Bayles Cowell, D.C.L. <i>Cambridge.</i>
1879 June 4.	Dr. Albert Günther, M.A., M.D., PH.D., P.L.S., V.P.Z.S., F.R.S. <i>Surrey.</i>
1879 June 4.	Dr. Jules Janssen. <i>Paris.</i>
1879 June 4.	Professor P. Regnaud. <i>Lyons.</i>
1881 Dec. 7.	Lord Kelvin, G.C.V.O., D.C.L., LL.D., F.R.S.E., F.R.S. <i>Glasgow.</i>
1888 Feb. 7.	William Thomas Blanford, Esq., LL.D., A.R.S.M., F.G.S., F.R.G.S., F.Z.S., F.R.S. <i>London.</i>
1883 Feb. 7.	Alfred Russell Wallace, Esq., LL.D., D.C.L., F.L.S., F.Z.S., F.R.S. <i>Dorset.</i>
1894 Mar. 7.	Sir George Gabriel Stokes, Bart, M.A., D.C.L., LL.D., D.SC., F.C.P.S., F.R.S.E., F.R.S. <i>Cambridge.</i>
1894 Mar. 7.	Mahamahapodhyaya Chandra Kanta Tarkalankara. <i>Calcutta.</i>
1894 Mar. 7.	Professor Theodor Noeldeke. <i>Strassburg.</i>
1895 June 5.	Lord Rayleigh, M.A., D.C.L., D.SC., LL.D., PH.D., F.R.A.S., F.R.S. <i>Witham, Essex.</i>
1895 June 5.	Lt.-Genl. Sir Richard Strachey, B.E., G.C.S.I., LL.D., F.R.G.S., F.G.S., F.L.S., F.R.S. <i>London.</i>
1895 June 5.	Charles H. Tawney, Esq., M.A., C.I.E. <i>London.</i>
1896 Feb. 5.	Lord Lister, F.R.C.S., D.C.L., M.D., LL.D., D.SC., F.R.S. <i>London.</i>
1896 Feb. 5.	Sir Michael Foster, K.C.B., M.A., M.D., D.C.L., LL.D., D.SC., F.L.S., F.C.S., F.R.S. <i>Cambridge.</i>
1896 Feb. 5.	Professor F. Kielhorn, PH.D., C.I.E. <i>Göttingen.</i>
1896 Feb. 5.	Professor Charles Rockwell Lanmann. <i>Massachusetts,</i> <i>U.S.A.</i>
1899 Feb. 1.	Dr. Augustus Frederick Rudolf Hoernle, PH.D., C.I.E. <i>Oxford.</i>
1899 Dec. 6.	Professor Edwin Ray Lankester, M.A., LL.D., F.R.S. <i>London.</i>
1899 Dec. 6.	Sir George King, K.C.I.E., M.B., LL.D., F.L.S., F.R.S. <i>London.</i>
1899 Dec. 6.	Professor Edward Burnett Tylor, D.C.L., M.D., F.R.S. <i>Oxford.</i>
1899 Dec. 6.	Professor Edward Suess, PH.D., For. Mem. R.S. <i>Vienna.</i>

CORRESPONDING MEMBER.

Date of Election.

1866 May 7. Schlagintweit, Dr. Emil. *Zweibrücken.*

ASSOCIATE MEMBERS.

- 1874 April 1. Lafont, The Revd. Father, E., C.I.E., S.J. *Calcutta.*
- 1875 Dec. 1. Bate, The Revd. J. D., M.R.A.S. *Kent.*
- 1875 Dec. 1. Abdul Hai, Maulvie. *Calcutta.*
- 1882 June 7. Giles, Herbert. *Europe.*
- 1884 Aug. 6. Moore, F., F.L.S. *Surrey.*
- 1885 Dec. 2. Führer, Dr. A. *Europe.*
- 1886 Dec. 1. Das, Rai Bahadur Sarat Chandra, C.I.E. *Calcutta.*
- 1892 April 6. Samasrami, Satya Vrata. *Calcutta.*
- 1892 Dec. 7. Brühl, P. J. *Sibpur.*
- 1899 April 5. Sanyal, Rai Bahadur Ram Brahma. *Calcutta.*
- 1899 April 5. Bhandari, Visnu Prasad Raj. *Nepal.*
- 1899 Nov. 1. Francotte, The Revd. Father E., S.J. *Calcutta.*

LIST OF MEMBERS WHO HAVE BEEN ABSENT FROM INDIA THREE YEARS AND UPWARDS.*

* *Rule 40.*—After the lapse of 3 years from the date of a member leaving India, if no intimation of his wishes shall in the interval have been received by the Society, his name shall be removed from the List of Members.

The following members will be removed from the next Member List of the Society, under the operation of the above Rule:—

- Henry Kerchever Walter Arnold, Esq.
- J. A. Cave-Brown, Esq., I.C.S.
- Sir Alfred W. Croft, M.A., K.C.I.E.
- Romesh Chunder Dutt, Esq., C.I.E., I.C.S. (retired).
- Frederick Alexander Shillingford, Esq.
- Dr. W. J. Simpson.

LOSS OF MEMBERS DURING 1900.

BY RETIREMENT.

Maulvie Abdul Karim, B.A.
 Brajendra Nath De, Esq., M.A., I.C.S.
 The Revd. Thomas Foulkes, F.L.S., F.R.G.S.
 R. Greeven, Esq., I.C.S.
 Francis Henry Harding, Esq., B.A., I.C.S.
 Joseph Kennedy, Esq., I.C.S.
 Mahamahopadhyaya Nilmani Mukerjea.
 Raja Peary Mohan Mukerjea, M.A., C.S.I.
 Lieut.-Col. R. H. Whitwell, I.M.S.

BY DEATH.

Ordinary Members.

Dr. John Anderson, M.D., F.R.S.
 Babu Aghore Chandra Bhaduri.
 H.R.H. The Duke of Edinburgh.
 Babu Rajani Kanta Gupta.
 Babu Guru Prasad Sen.

Honorary Members.

Professor The Right Hon. F. Max Müller.

BY REMOVAL.

Under Rule 9.

R. C. Hamilton, Esq., I.C.S.
 J. Lane Long, Esq.
 Captain W. F. O'Connor, B.A. (Re-elected).
 George Charles Wolfe, Esq.

Under Rule 38.

Maulvie Aziz-ud-din Ahmad.
Babu Krishna Gopal Bhakta.
Rai Nali Naksha Bose Bahadur.
Babu Radhika Raman Chatterjee.
Rai Khirod Chandra Chaudhuri.
Babu Gopal Ballabh Das, M.A.
Raja Baikunta Nath De.
Maulvie Khuda Baksh Khan Bahadur.
Varada Charana Mitra, Esq., I.C.S.
Babu Mahendra Nath Ray, M.A., B.L.
Babu Suresh Chunder Samajpati.
Rajkumar Sarvadhikari Rai Bahadur.
Babu Narendra Nath Sen.
Raja Bhupendra Sinha Bahadur.

Under Rule 40.

Henry DeCourcy Agnew, Esq.
Dr. C. F. Oldham, F.R.C.S.

CHAPTER II

The first part of the chapter discusses the importance of the study of the history of the people of the region. It is noted that the study of the past is essential for understanding the present and for planning for the future. The author emphasizes that the history of the people is not only a record of their past but also a source of inspiration and guidance for their present and future actions.

The second part of the chapter deals with the various factors that have influenced the development of the region. These factors include geographical location, climate, and the presence of natural resources. The author also discusses the role of human intervention in the development of the region, particularly in the areas of agriculture, industry, and commerce.

The third part of the chapter focuses on the social and cultural aspects of the region. It describes the traditional customs and practices of the people and how these have changed over time. The author also discusses the impact of modernization and the influence of external forces on the social and cultural life of the region.

The fourth part of the chapter is a conclusion that summarizes the main findings of the study. It reiterates the importance of the study of the history of the people and the need for a balanced and comprehensive approach to the development of the region. The author expresses hope that the study will provide a useful guide for the people of the region as they move forward into the future.

[APPENDIX.]

ABSTRACT STATEMENTS
OF
RECEIPTS AND DISBURSEMENTS
OF THE
ASIATIC SOCIETY OF BENGAL
FOR
THE YEAR 1900.

1900.

STATEMENT

Asiatic Society

Dr.

				To ESTABLISHMENT.					
				Rs.	As.	P.	Rs.	As.	P.
Salaries	...	...	...	3,486	9	0			
Commission	...	...	...	416	10	9			
Pension	...	...	...	52	0	0			
							3,905	3	9
				To CONTINGENCIES.					
Repairs	...	...	...	69	3	0			
Stationery	...	...	...	113	5	6			
Lighting	...	...	...	75	0	0			
Taxes	...	...	...	884	4	0			
Postage	...	...	...	445	2	0			
Freight	...	...	...	32	8	6			
Meeting	...	...	...	56	13	0			
Auditor's fee	...	...	...	100	0	0			
Miscellaneous	...	...	...	295	5	11			
							2,071	9	11
				To LIBRARY AND COLLECTIONS.					
Books	...	...	...	1,585	2	2			
Binding	...	...	...	495	4	0			
Furniture	...	...	...	265	10	0			
Catalogue	...	...	...	100	0	0			
Catalogue of Coins	...	...	...	362	8	0			
							2,758	8	2
				To PUBLICATIONS.					
Journal, Part I	..	...	...	346	14	0			
Journal, Part II	...	...	...	2,272	7	0			
Journal, Part III	...	...	...	1,275	8	0			
Proceedings	...	...	...	652	1	0			
							4,546	14	0
To Printing charges of Circulars, Receipt-forms, &c.				...			236	6	0
„ Personal Account (Writes-off and Miscellaneous)				...			1,309	10	4
				To EXTRAORDINARY EXPENDITURE.					
Royal Society's Scientific Catalogue	...	...	...	382	13	0			
							382	13	0
Balance	...	...	...	...			1,59,276	6	0
							1,74,487	7	2
Total Rs.				...			1,74,487	7	2

No. 1.
of Bengal.

1900.

Cr.

			Rs.	As.	P.	Rs.	As.	P.
By Balance from last Report			1,52,452	11	11

BY CASH RECEIPTS.

Publications sold for cash	...	...	...	304	0	0		
Interest on Investments	...	...	...	5,530	0	0		
Rent of Rooms on the Society's ground floor	...	...	...	1,200	0	0		
Allowance from Government of Bengal for the Publication of Anthropological and Cognate Sub- jects	...	...	...	2,000	0	0		
Ditto from Government of Assam	...	...	...	2,000	0	0		
Miscellaneous	...	...	...	110	4	3		
							11,144	4 3

BY PERSONAL ACCOUNT.

Admission fees	...	...	...	1,104	0	0		
Subscriptions	...	...	...	8,886	0	0		
Sales on credit	...	...	...	561	0	0		
Miscellaneous	...	...	...	389	7	0		
							10,890	7 0

Total Rs. ... 1,74,487 7 2

W. K. DONS,
Honorary Secretary and Treasurer,
Asiatic Society of Bengal.

Examined and found correct,
MEUGENS, KING & SIMSON,
Auditors.

STATEMENT

1900. Oriental Publication Fund in Account

Dr.

To CASH EXPENDITURE.				Rs.	As.	P.	Rs.	As.	P.
Printing charges	...	...	...	5,880	12	9			
Editing charges	...	...	...	3,399	8	0			
Salaries	...	...	...	1,280	9	9			
Freight	...	...	...	16	14	0			
Stationery	...	...	...	70	0	6			
Postage	...	...	...	236	5	3			
Commission on collection	...	...	...	29	3	3			
Contingencies	...	...	...	20	9	6			
							10,433	15	0
To Personal Account (Writes-off and Miscellaneous)	...	...	...				209	10	0
Balance	...	...	...				10,561	12	11
Total Rs.							21,205	5	11

STATEMENT

Sanskrit Manuscript Fund in Account

Dr.

To CASH EXPENDITURE.				Rs.	As.	P.	Rs.	As.	P.
Salaries	...	...	...	1,056	0	0			
Travelling charges	...	...	...	253	13	6			
Purchase of manuscripts	...	...	...	607	8	0			
Printing	...	...	...	4	14	0			
Postage	...	...	...	0	7	0			
Stationery	...	...	...	3	4	0			
Contingencies	...	...	...	198	7	3			
							2,124	5	9
To Personal Account (Writes-off and Miscellaneous)	...	...	...				2	0	0
Balance	...	...	...				6,952	2	2
Total Rs.							9,078	7	11

No. 2.

with the Asiatic Society of Bengal. 1900.

		Cr.			
		Rs.	As. P.	Rs.	As. P.
By Balance from last Report	...			10,564	13 4
BY CASH RECEIPTS.					
Government allowance	...	9,000	0 0		
Publications sold for cash	...	609	14 4		
Advances recovered	...	51	11 6		
				9,661	9 10
BY PERSONAL ACCOUNT.					
Sales on credit	...	978	9 0		
Miscellaneous	...	0	6 0		
				978	15 0
Total Rs.				21,205	5 11

W. K. DODS,
Honorary Secretary and Treasurer,
Asiatic Society of Bengal.

Examined and found correct.
 MEUGENS, KING & SIMSON,
Auditors.

No. 3.

with the Asiatic Society of Bengal.

		Cr.			
		Rs.	As. P.	Rs.	As. P.
By Balance from last Report	...			5,872	7 11
BY CASH RECEIPTS.					
Government allowance	...	3,200	0 0		
Publications sold for cash	...	3	0 0		
				3,203	0 0
BY PERSONAL ACCOUNT.					
Sales on credit	...			3	0 0
Total Rs.				9,078	7 11

W. K. DODS,
Honorary Secretary and Treasurer,
Asiatic Society of Bengal.

Examined and found correct.
 MEUGENS, KING & SIMSON,
Auditors.

STATEMENT

1900.

Personal

Dr.

			Rs.	As.	P.	Rs.	As.	P.
To Balance from last Report	...	...	...	...	...	4,124	7	4
To CASH EXPENDITURE.								
Advances for purchase of Sanskrit Manuscripts, &c.	...	...	..	..	..	190	1	0
To Asiatic Society	...	...	10,890	7	0			
„ Oriental Publication Fund	...	...	978	15	0			
„ Sanskrit Manuscript Fund	...	...	3	0	0			
						11,872	6	0

Total Rs. ... 16,186 14 4

STATEMENT

Invest

Dr.

			Value.			Cost.		
			Rs.	As.	P.	Rs.	As.	P.
To Balance from last Report	...	...	1,59,300	0	0	1,60,143	0	10
„ Cash	...	...	6,000	0	0	5,587	7	6
Total Rs.	...	...	1,65,300	0	0	1,65,730	8	4

FUNDS.	PERMANENT.						TEMPORARY.						TOTAL COST.		
	Value.			Cost.			Value.			Cost.			Rs.	As.	P.
	Rs.	As.	P.	Rs.	As.	P.	Rs.	As.	P.	Rs.	As.	P.	Rs.	As.	P.
Asiatic Society ...	1,44,500	0	0	1,44,121	0	0	19,500	0	0	20,313	11	7	1,64,434	11	7
Trust Fund ...	1,300	0	0	1,295	12	9	...	...	...	...	...	...	1,395	12	9
	1,45,800	0	0	1,45,416	12	9	19,500	0	0	20,313	11	7	1,65,730	8	4

No. 4.

Account.

1900.

Cr.

	Rs.	As.	P.	Rs.	As.	P.
By Cash Receipts	12,425	13 3
„ Asiatic Society	1,809	10 4	
„ Oriental Publication Fund	209	10 0	
„ Sanskrit Manuscript Fund	2	0 0	
					1,521	4 4

By Balance.	Due to the Society.			Due by the Society.		
	Rs.	As.	P.	Rs.	As.	P.
Members ...	3,061	8	3	224	13	6
Subscribers ...	5	0	0	91	8	0
Employés ...	30	0	0	350	0	0
Miscellaneous	60	10	11	251	0	11
	3,157	3	2	917	6	5

...	2,239	12 9
Total Rs.	16,186	14 4

W. K. DODS,
Honorary Secretary and Treasurer,
Asiatic Society of Bengal.

Examined and found correct.
MEUGENS, KING & SIMSON,
Auditors.

No. 5.

ment.

Cr.

	Value.			Cost.		
	Rs.	As.	P.	Rs.	As.	P.
By Balance * ...	...	...	...	1,65,300	0 0	1,65,730 8 4
Total Rs.	1,65,300	0 0	1,65,730	8 4		

W. K. DODS,
Honorary Secretary and Treasurer,
Asiatic Society of Bengal.

Examined and found correct.
MEUGENS, KING & SIMSON,
Auditors.

STATEMENT

1900.

Trust

Dr.						Rs. As. P.			
To Pension	44	0	0
„ Balance	1,347	11	10
Total Rs.						...	1,891	11	10

STATEMENT

Cash

Dr.						Rs. As. P.			
To Balance from last Report	5,968	12	7
RECEIPTS.									
To Asiatic Society	11,144	4	3
„ Oriental Publication Fund	9,661	9	10
„ Sanskrit Manuscript Fund	3,203	0	0
„ Personal Account	12,425	13	3
„ Trust Fund	45	8	0
Total Rs.						...	42,448	15	11

STATEMENT

Balance

Dr.						Rs. As. P.			
To Cash	10,167	11	10
„ Investments	1,65,730	8	4
„ Personal Account...	2,239	12	9
Total Rs.						...	1,78,138	0	11

No. 6.
Fund.

1900.

Cr.

				Rs.	As.	P.
By Balance from last Report	...	...	...	1,346	3	10
„ Interest on Investments	...	...	...	45	8	0
Total Rs.				1,391	11	10

W. K. DODS,
Honorary Secretary and Treasurer,
Asiatic Society of Bengal.

Examined and found correct.
MEUGENS, KING & SIMSON,
Auditors.

No. 7.
Account.

Cr.

EXPENDITURE.

				Rs.	As.	P.
By Asiatic Society	...	...	...	13,901	6	10
„ Oriental Publication Fund	...	...	...	10,433	15	0
„ Sanskrit Manuscript Fund	...	...	...	2,124	5	9
„ Personal Account	...	...	...	190	1	0
„ Investments	...	...	...	5,587	7	6
„ Trust Fund	...	...	...	44	0	0
Balance				10,167	11	10
Total Rs.				42,448	15	11

W. K. DODS,
Honorary Secretary and Treasurer,
Asiatic Society of Bengal.

Examined and found correct.
MEUGENS, KING & SIMSON,
Auditors.

No. 8.
Sheet.

Cr.

				Rs.	As.	P.
By Asiatic Society	...	...	...	1,59,276	6	0
„ Oriental Publication Fund	...	...	...	10,561	12	11
„ Sanskrit Manuscript Fund	...	...	...	6,952	2	2
„ Trust Fund	...	...	...	1,347	11	10
Total Rs.				1,78,138	0	11

W. K. DODS,
Honorary Secretary and Treasurer,
Asiatic Society of Bengal.

Examined and found correct.
MEUGENS, KING & SIMSON,
Auditors.

List of all Societies, Institutions, &c., to which the Publications of the Asiatic Society have been sent during the year, or from which publications have been received.

* Societies, &c., which have received the Asiatic Society's publications, and have sent their publications in return.

† Societies, &c., which have received the Asiatic Society's publications, but have sent none in return.

§ Societies, &c., whose publications have been received, but to which none have been sent in return.

- * Adelaide:—Royal Geographical Society of Australasia.
- * Allahabad:—Editor, *Pioneer*.
- * Amsterdam:—Royal Zoological Society.
- * ———:—Koninklijke Akademie van Wetenschappen.
- * Angers:—Société d' Etudes Scientifiques d' Angers.
- * Baltimore:—Johns Hopkins University.
- * Batavia:—Society of Arts and Sciences.
- * ———:—Kon. Natuurkundige Vereeniging in Nederlandsch-Indië.
- § Bellary:—Editor, *Astrological Magazine*.
- * Benares:—Nagari Pracharini Sabha.
- * Berlin:—Entomologischer Verein.
- * ———:—Berliner Gesellschaft für Anthropologie, Ethnologie und Urgeschichte.
- * ———:—Gesellschaft Naturforschende Freunde zu Berlin.
- * ———:—Royal Academy of Sciences.
- * ———:—Seminars für Orientalische Sprachen.
- § ———:—Laboratorium et Museum.
- § ———:—Königlichen Bibliothek.
- † Berne:—Société Suisse d' Entomologie.
- * Bombay:—Bombay Anthropological Society.
- * ———:—Bombay Branch, Royal Asiatic Society.
- * ———:—Editor, *Indian Antiquary*.
- * ———:—Natural History Society.
- § ———:—Government Observatory.
- § ———:—Marine Survey of India.
- † Bonn:—University of Bonn.
- * Bordeaux:—L' Académie Nationale des Sciences, Belles-Lettres et Arts.
- * ———:—Société Linnéenne.
- § Boston:—American Philological Association.
- * ———:—Natural History Society.
- § ———:—American Oriental Society.
- * Brisbane:—Royal Society of Queensland.

- § Brisbane :—Queensland Museum.
 § ——— :—Department of Agriculture.
 † Brookville :—Society of Natural History.
 * Brunswick :—Verein für Naturwissenschaft.
 * Brussels :—L' Académie Royale des Sciences.
 † ——— :—Musée Royal d' Histoire Naturelle de Belgique.
 * ——— :—Société Entomologique de Belgique.
 * ——— :—La Société Royale Malacologique de Belgique.
 * ——— :—Société Royale des Sciences de Liège.
 § ——— :—Musée du Congo.
 † Budapest :—Hungarian Central Bureau for Ornithological Observations.
 * ——— :—Royal Hungarian Academy of Sciences.
 § ——— :—Editor, *Aquila*.
 * Buenos Ayres :—National Museum.
 † ——— :—Academia Nacional de Ciencias de la Republica Argentina.
 § Buffalo, N.Y. :—Society of Natural Sciences.
 * Caen :—Société Linnéenne de Normandie.
 * Calcutta :—Agri-Horticultural Society of India.
 * ——— :—Geological Survey of India.
 * ——— :—Editor, *Englishman*.
 § ——— :—Editor, *Indian and Eastern Engineer*.
 * ——— :—Editor, *Indian Daily News*.
 § ——— :—Editor, *Indian Engineering*.
 * ——— :—Editor, *Indian Mirror*.
 § ——— :—Editor, *Indian Lancet*.
 * ——— :—Indian Meteorological Department.
 * ——— :—Indian Museum.
 § ——— :—Maha-bodhi Society.
 § ——— :—Photographic Society of India.
 * ——— :—Royal Botanic Gardens.
 * ——— :—Survey of India.
 * ——— :—Tuttobodhini Shova.
 * ——— :—Sanskrit College.
 § ——— :—Imperial Library.
 § ——— :—Botanical Survey of India.
 § ——— :—St. Xavier's College Observatory.
 * ——— :—University Library.
 § ——— :—Editor, *Indian Gardening and Planting*.
 † ——— :—Mahomedan Literary Society.
 * Cambridge :—University Library.
 * Cape Town :—South African Museum.

- * Cape Town :—South African Philosophical Society.
- * Cassel :—Die Verein für Naturkunde.
- † Cherbourg :—Société Nationale des Sciences Naturelles.
- * Chicago, Ill. :—Field Columbian Museum.
- § ——— :—Academy of Sciences.
- * Christiana :—University Library.
- § Cincinnati :—Lloyd Library of Botany, Pharmacy and Materia Medica.
- † Clinton, Wiss. :—Editor, *American Antiquarian and Oriental Journal*.
- * Colombo :—Ceylon Branch, Royal Asiatic Society.
- * Copenhagen :—La Société Royale des Antiquaires du Nord.
- † Cuttack :—Cuttack Library.
- * Danzig :—Naturforschende Gesellschaft.
- * Dehra Dun :—Great Trigonometrical Survey.
- * Dresden :—Entomologischer Verein "Iris."
- * ——— :—Königlich Zoologisches und Anthropologisch-Ethnographisches Museum.
- * Dublin :—Royal Dublin Society.
- * ——— :—Royal Irish Academy.
- * Edinburgh :—Royal Society.
- § ——— :—Royal Physical Society.
- † ——— :—Scottish Geographical Society.
- * Florence :—Società Italiana d' Antropologia e Etnologia.
- † ——— :—Società Africana d'Italia.
- * Frankfurt :—Senckenbergische Naturforschende Gesellschaft.
- * ——— :—Naturwissenschaftlicher Verein des Reg.-Bez. Frankfurt.
- * Geneva :—Société de Physique et d' Histoire Naturelle.
- * Genoa :—Museo Civico di Storia Naturale.
- * Giessen :—Oberhessische Gesellschaft für Natur und Heilkunde.
- * Graz :—Naturwissenschaftlicher Verein für Styria.
- § Greenwich :—Royal Observatory.
- * Hague :—Köninklijk Instituut voor de Taal- Land-en Volkenkunde van Nederlandsch-Indië.
- * ——— :—Netherlands Entomological Society.
- * ——— :—The State Archives.
- § Halifax :—Nova Scotian Institute of Science.
- † Halle :—Deutsche Morgenländische Gesellschaft.
- * ——— :—Kaiserliche Leopoldinisch-Carlinische Akademie.
- * Hamburgh :—Naturhistorisches Museum.
- * ——— :—Naturwissenschaftlicher Verein.
- * Hamilton (Canada) :—Hamilton Association.
- * Havre :—Société de Géographie Commerciale du Havre.

- * Helsingfors :—Societas pro Flora et Fauna Fennica.
- * ——— :—Société Finno Ougrienne.
- * ——— :—Société des Sciences de Finlande.
- * Honolulu :—Bernice Pauahi Bishop Museum.
- § Indianapolis, Ind. :—Geological Survey.
- § Ithaca :—Cornell University.
- † Kiew :—Société des Naturalistes.
- * Königsberg :—Die Physikalische-Oekonomische Gesellschaft.
- † La Plata :—Museo de La Plata Republica Argentina.
- * Lahore :—Editor, *Civil and Military Gazette*.
- † ——— :—Agricultural Society.
- * Lawrence, Kansas :—Kansas University.
- § Leipzig :—Deutsche Morgenländische Gesellschaft.
- § ——— :—Die K. Sächsische Gesellschaft der Wissenschaften.
- † Leyden :—Royal Herbarium.
- * Liège :—Société Géologique de Belgique.
- * Liverpool :—Literary and Philosophical Society.
- * London :—Anthropological Institute.
- * ——— :—Editor, *Academy*.
- * ——— :—Editor, *Athenæum*.
- * ——— :—British Museum.
- * ——— :—Geological Society.
- * ——— :—Institution of Civil Engineers.
- * ——— :—Institution of Electrical Engineers.
- * ——— :—Institution of Mechanical Engineers.
- * ——— :—Editor, *Nature*.
- * ——— :—Linnean Society.
- * ——— :—Royal Asiatic Society of Great Britain and Ireland.
- * ——— :—Royal Astronomical Society.
- * ——— :—Royal Geographical Society.
- * ——— :—Royal Institution of Great Britain.
- * ——— :—Royal Microscopical Society.
- * ——— :—Royal Society.
- * ——— :—Royal Statistical Society.
- * ——— :—Zoological Society.
- § ——— :—British Association for the Advancement of Science.
- § ——— :—Editor, *Periodical*.
- § Lübeck :—Geographischen Gesellschaft und des Naturhistorischen
Museums.
- § Lucknow :—Government Horticultural Gardens.
- † Lyons :—La Société d' Agriculture, d' Histoire Naturelle et des Arts
Utiles.

- † Lyons :—Muséum d' Histoire Naturelle.
- * ——— :—La Société d' Anthropologie.
- * Madison, Wiss. :—Wisconsin Academy of Sciences, Arts and Letters.
- † Madras :—Literary Society.
- * ——— :—Government Central Museum.
- § ——— :—Editor, *Indian Journal of Education*.
- § ——— :—Government Observatory.
- * Manchester :—Literary and Philosophical Society.
- * Massachusetts :—Tufts College.
- * Melbourne :—Royal Society of Victoria.
- * Mexico :—Sociedad Científica " Antonio Alzate."
- § ——— :—Instituto Geológico.
- § Missouri :—Botanical Garden.
- § Montevideo :—Museo Nacional de Montevideo.
- * Moscow :—Société Impériale des Naturalistes.
- * Munich :—K. Bayerische Akademie der Wissenschaften.
- § ——— :—Ornithologischen Vereins.
- § Nagpur :—Experimental Farm.
- * Nantes :—Société des Sciences Naturelles de L' ouest de la France.
- † Naples :—Società Africana d' Italia.
- * New Haven :—Connecticut Academy of Arts and Sciences.
- § ——— :—Yale University.
- § ——— :—Yale Forest School.
- * Newport (R. I.) :—Natural History Society.
- * New York :—American Museum of Natural History.
- * Nürnberg :—Naturhistorische Gesellschaft.
- * Ottawa :—Geological and Natural History Survey of the Dominion of
Canada.
- § ——— :—Royal Society of Canada.
- † Oxford :—Bodleian Library.
- † ——— :—Indian Institute.
- § Para, Brazil :—Museu Paraense.
- * Paris :—Société de Géographie.
- * ——— :—Société d' Anthropologie.
- * ——— :—Asiatic Society.
- § ——— :—Société Philomathique de Paris.
- * ——— :—Musée Guimet.
- † ——— :—National Library.
- * ——— :—Société Zoologique.
- † ——— :—Société Académique Indo-Chinoise.
- * ——— :—Muséum d' Histoire Naturelle.
- * Pennsylvania :—University of Pennsylvania.

- * Philadelphia :—Academy of Natural Sciences.
- § ——— :—American Academy of Political and Social Science.
- * ——— :—American Philosophical Society.
- § ——— :—Franklin Institute.
- † ——— :—Editor, *Journal of Comparative Medicine and Surgery*.
- * Pisa :—Société Toscana di Scienze Naturali.
- § Prague :—K. K. Sternwarte.
- § Rio de Janeiro :—Observatorio do Rio de Janeiro.
- § Rome :—Società degli Spettroscopisti Italiani.
- § ——— :—R. Accademia dei Lincei.
- § Roorkee :—Editor, *Indian Forester*.
- * St. Petersburg :—Comité Géologique.
- † ——— :—Imperial Library.
- * ——— :—Russian Geographical Society.
- * ——— :—Académie Impériale des Sciences.
- * ——— :—Horti Petropolitani.
- § ——— :—Die Russisch-Kaiserliche Mineralogische Gesellschaft zu St. Petersburg.
- § Saharanpur :—Government Botanical Gardens.
- * San Francisco :—Californian Academy of Arts and Sciences.
- § Schaffhausen :—Swiss Entomological Society.
- * Shanghai :—China Branch, Royal Asiatic Society.
- * Simla :—United Service Institution of India.
- * Springfield, Ill :—Illinois State Laboratory of Natural History.
- § ——— :—Newberry Library.
- * Stettin :—Entomological Society.
- * Stockholm :—Entomologische Tidskrift.
- * ——— :—Royal Swedish Academy of Sciences.
- * ——— :—Royal Academy of belles letters, history and Antiquities.
- § ——— :—Musée des Antiquités Nationales.
- * Stuttgart :—Der Verein für vaterländische Naturkunde in Württemberg.
- * Sydney :—Royal Society of New South Wales.
- † ——— :—Anthropological Society of Australia.
- * ——— :—Linnean Society of New South Wales.
- § ——— :—Editor, *Science of Man*.
- § Taiping :—Government of Perak.
- * Toronto :—Canadian Institute.
- * Tokyo :—Imperial University of Japan.
- § Trencsen :—Naturwissenschaftlichen Vereines.
- † Trieste :—Société Adriatica de Scienze Naturale.
- † ——— :—Museo Civico di Storia Naturale.

- * **Tring**:—Zoological Museum.
- * **Turin**:—Reale Accademia delle Scienze.
- † **Ulwar**:—Ulwar Library.
- * **Upsala**:—University of Upsala.
- § ———:—Kongl. Humanistiska Vetenskaps-Samfundet.
- * **Valparaiso**:—Deutscher Wissenschaftlicher Verein.
- * **Vienna**:—Anthropologische Gesellschaft.
- * ———:—K. K. Akademie der Wissenschaften.
- * ———:—K. K. Geologische Reichsanstalt.
- * ———:—K. K. Naturhistorische Hofmuseum.
- † ———:—Ornithologische Verein in Wien.
- * ———:—K. K. Zoologisch-Botanische Gesellschaft.
- § **Washington**:—Biological Society of Washington.
- * ———:—Commissioners of the Department of Agriculture.
- * ———:—Smithsonian Institution.
- * ———:—United States Geological Survey.
- § ———:—United States National Museum.
- § ———:—Academy of Sciences.
- § ———:—American Historical Association.
- * **Wellington**:—New Zealand Institute.
- * ———:—Polynesian Society.
- * **Yokohama**:—Asiatic Society.
- * ———:—Deutsche Gesellschaft für Natur und Völkerkunde Ostasiens.
- * **Zagreb**:—Archæological Society.
- * **Zurich**:—Naturforschende Gesellschaft.





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