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JOURNAL & PROCEEDINGS

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OF THE

ASIATIC SOCIETY OF BENGAL.

Vol. I, No. 1.

1905.

CALCUTTA :

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ASIATIC SOCIETY, 57, PARK STREET.

1905.

Issued June 21st, 1905.

List of Officers and Members of Council
OF THE
ASIATIC SOCIETY OF BENGAL
For the year 1905.

President :

H. H. Hayden, Esq., B.A., F.G.S.

Lieutenant-Colonel J. H. Full Walsh, R.M.S.

R. O. Lees, Esq.

H. H. Hayden, Esq., B.A., F.G.S.

E. Thornton, Esq., F.R.I.B.A.

PROCEEDINGS
OF THE
ASIATIC SOCIETY OF BENGAL
FOR
JANUARY, 1905.

The Monthly General Meeting of the Society was held on Wednesday, the 4th January, 1905, at 9-15 P.M.

The Hon. Mr. Justice F. E. Pargiter, B.A., I.C.S., President, in the chair.

The following members were present :—

Mr. J. Bathgate, Major W. J. Bythell, R.E., Babu Manmohan Chakravarti, Rai Sarat Chandra Das Bahadur, Mr. F. Doxey, Mr. G. C. Dudgeon, Mr. N. L. Hallward, Dr. W. C. Hossack, Mr. H. H. Mann, Dr. M. M. Masoom, The Hon. Mr. Justice Saroda Charan Mitra, Captain L. Rogers, I.M.S., Pandit Yogesa Chandra Sastree, Pandit Satis Chandra Vidyabhusana.

Visitors :—Mr. H. Chandler, Mr. P. M. Choudry, Rev. Ekai Kamaguchi, Mr. B. T. Pell, and Mr. S. C. Sanial.

The minutes of the last Meeting were read and confirmed.

Sixty-nine presentations were announced.

His Honour Sir A. H. L. Fraser, K.C.S.I., Lt.-Col. H. T. S. Ramsden, I.A., Mr. J. T. Rankin, Mr. Sukumar Sen, Babu Mucksoodan Das, and Mr. F. Turner, were ballotted for and elected Ordinary Members.

It was announced that Babu Roomall Goenka and Major A. H. Bingley, I.A., had expressed a wish to withdraw from the Society.

The President announced that he had, in accordance with the resolution passed at the last Council Meeting, that the objects which the Society decided to lend to the Trustees of the Victoria Memorial Hall for exhibition should be lent to them for exhibition during this cold season as soon as H.E. the Viceroy wished for them—handed them over to the Trustees, except the Asoka stone which the Trustees excluded.

The President also announced that he had received six essays

in competition for the Elliott Prize for Scientific Research for the year 1904.

Rai Sarat Chandra Das Bahadur described the Lamaic incarnation of Tibet.

The following papers were read :—

1. *On the Mārkaṇḍeya Purāna.*—By THE HON. MR. JUSTICE F. E. PARGITER, B.A., I.C.S.

The paper will not be published in the Journal.

2. *The Dalai Lama's Hierarchy.*—By RAI SARAT CHANDRA DAS BAHADUR, C.I.E.

The paper has been published in Journal, Part I, Extra No., 1904.

3. *On the Prevalence of Fevers in the Dinajpur District.*—By LEONARD ROGERS, M.D., I.M.S., *Officiating Professor of Pathology, Medical College, Calcutta.*

The paper has been published in Journal, Part II, Supplement, 1904.

FEBRUARY, 1905.

The Annual Meeting of the Society was held on Wednesday, the 1st February, 1905, at 9-30 P.M.

HIS EXCELLENCY LORD CURZON, G.M.S.I., G.M.I.E., Patron, in the chair.

The following members were present :—

Dr. A. G. Allan, Mr. N. Annandale, Mr. J. Bathgate, Rev. P. O. Bodding, Babu Monmohan Chakravarti, Mr. B. L. Chandhuri, Mr. W. R. Cripser, Mr. J. N. Das-Gupta, Mr. W. K. Dods, Mr. F. Doxey, His Honour Sir A. H. L. Fraser, Mr. N. L. Hallward, Mr. T. H. Holland, Mr. D. Hooper, Dr. W. C. Hossack, Mr. G. W. Kuchler, Mr. C. W. McMinn, Mr. J. Macfarlane, Mr. E. D. MacLagan, Kumar Ramessur Maliah, The Hon. Mr. Justice F. E. Pargiter, Mr. W. Parsons, The Hon. Mr. A. Pedler, Kumar Satindradev Rai Mahasai, Dr. P. K. Ray, Mr. H. H. Risley, Captain L. Rogers, I.M.S., Dr. E. D. Ross, Pandit Yogesa Chandra Sastree, Mahamahopadhyaya Haraprasad Shastri, Mr. H. E. Stapleton, Pandit Satis Chandra Vidyabhushana, Mr. E. Vredenburg, Mr. W. H. Arden Wood, Mr. J. Wyness.

Visitors :—Mr. R. E. V. Arbuthnot, Miss B. Buckland, Mr. H. Chandler, Mr. E. C. Cotes, Mr. A. F. Cousins, Rev. J. Dahlmann, S.J., Lady Fraser, BabuDevabrata Mukhopadhyaya, Kumar Manindradev Rai Mahasai, Mr. S. C. Sanyal, Mr. G. Stapleton, Rev. A. Willifer-Young.

According to the Rules of the Society, the President ordered the voting papers to be distributed for the election of Officers and Members of Council for 1905 and appointed Messrs. G. W. Kuchler and N. L. Hallward to be scrutineers.

The President announced that the Trustees of the "Elliott Prize for Scientific Research" had awarded the prize for the year 1904 to Babu Sarasi Lal Sarkar, and read the following report of the Trustees :—

Report on the Elliott Prize for Scientific Research for 1904.

The Trustees have received Essays from the following competitors for the prize :—

1. *On the crystalline properties of a potassium copper ferrocyanide compound. Parts I & II.*—By SARASI LAL SARKAR, M.A.
2. *On the experimental determination of the Electro-chemical equivalent of nickel. (With diagrams).*—By SURENDRA NATH MAITRA, M.A.

3. *On a complete investigation of a Phenomenon taking place beyond the critical angle.*—By JAGADINDRA ROY.

4. *Essay on metal soaps.*—By AKSHAYA KUMAR MAJUMDAR, M.A.

5. *An Essay on the results of "Original Researches" (made during 1903-04) leading to the discovery of a cheap and simple chemical process for the extraction and cleaning of fibre from plantain and banana stalks easily adoptable for the development of a profitable industry by all classes of people in Bengal or in any place in India.*—By MANINDRA-NATH BANERJEE.

6. *On the Hindu method of manufacturing spirit from rice and its scientific explanation.*—By JOGES CHANDRA ROY.

The Trustees, after consulting experts as provided in the scheme, adjudge the prize for the year 1904 to Babu Sarasi Lal Sarkar, M.A.

F. E. PARGITER,

President, Asiatic Society of Bengal.

ALEX. PEDLER,

Director of Public Instruction, Bengal,

AND

Vice-Chancellor, Calcutta University.

CALCUTTA,
30th January, 1905.

The President also announced that the Barclay Memorial Medal for the year 1904 had been offered to Lt.-Col. D. D. Cunningham, F.R.S., C.I.E., I.M.S., (retired).

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

ANNUAL REPORT FOR 1904.

The Council of the Society have the honour to submit the following Report on the state of the Society's affairs during the year ending 31st December, 1904.

Member List.

During the year under review, 39 Ordinary Members were elected, 8 withdrew, 5 died, and 18 were removed from the list, *viz.*: 6 under Rule 38, as defaulters; 9 under Rule 40, being more than 3 years absent from India; and 3 under Rule 9, not

having paid their entrance fees. The election of one member was cancelled at his own request as he was not prepared to join the Society at once. Of the members elected, 2 were old members who rejoined. The total number of members, at the close of 1904, was thus 343 against 335 in the preceding year. This is higher than that of any year on record. Of these 132 were Resident, 130 Non-Resident, 14 Foreign, 21 Life, and 45 absent from India; and one a Special Non-Subscribing Member, as will be seen from the following table, which also shows the fluctuations in the number 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.	
1899	120	119	13	252	21	27	1	49	301
1900	116	124	18	258	22	30	1	53	311
1901	123	133	13	269	22	36	1	59	328
1902	126	126	14	266	21	46	1	68	334
1903	127	126	15	268	21	45	1	67	335
1904	132	130	14	276	21	45	1	67	343

The five Ordinary Members, whose loss by death during the year we have to regret, were Dr. U. C. Mukerjee, Mr. A. T. Pringle, Mr. H. M. Rustomjee, Dr. Mahendralal Sircar and Dr. C. R. Wilson.

There was one death amongst the Honorary Members, *viz.*, Dr. Otto von Böhlingk. To fill this vacancy and others previously existing, the Society on the recommendation of the Council elected as Honorary Members, Professor H. Kern, Professor Ram Krishna Gopal Bhandarkar, Professor M. J. DeGoeje, Professor Ignaz Goldziher, Sir Charles Lyall, Sir William Ramsay, and Dr. G. A. Grierson.

The List of Special Honorary Centenary Members and Associate Members continued unaltered from last year; their numbers standing at 4 and 13 respectively.

Intimation was received of the death of Dr. Emil Schlagintweit, the only Corresponding Member of the Society.

No members compounded for their subscription during the year.

Indian Museum.

There was only one change amongst the Trustees; it was caused by the death of Dr. Mahendralal Sircar, and Mr. J. Macfarlane was appointed to fill the vacant place.

The other Trustees who represent the Society have been :—

The Hon. Mr. A. Pedler, C.I.E., F.R.S.

G. W. Küchler, Esq., M.A.

T. H. Holland, Esq., F.G.S., F.R.S.

The Hon. Sir J. A. Bourdillon, K.C.S.I.

Finance.

The accounts of the Society are shown in the Appendix under the usual heads, and besides in this year's account there is an additional statement under the head "Arabic and Persian Manuscripts." Statement No. 9 contains the Balance Sheet of the Society and of the different funds administered through it.

The financial position of the Society shows an improvement, and the credit balance at the close of the year amounts to Rs. 1,92,939-7-5, which is more than eleven thousand rupees in advance of last year, and is chiefly due to the special Government grant of Rs. 10,000.

The Budget for 1904 was estimated at the following figures :— Receipts Rs. 17,700; Expenditure Rs. 25,374-4 (Ordinary Rs. 17,254-4; Extraordinary Rs. 8,120.) Taking into account only the ordinary items of receipts and expenditure for the year 1904, the actual results have been :—Receipts Rs. 30,368-13-8; Expenditure Rs. 14,134-0-7, showing a balance (after setting aside the special grant of Rs. 10,000) in favour of the Society on its ordinary working of Rs. 6,234-13-1. Against this balance, there have been several extraordinary items of expenditure amounting to Rs. 5,182-8-10; the net balance is Rs. 1,052-4-3. There is a Temporary Investment of Rs. 48,300, at the close of the year, out of which Rs. 33,259-5-7 is in favour of the Society, Rs. 5,097-1-3 Oriental Publication Fund, Rs. 3,578-0-5 Sanskrit MS. Fund, and Rs. 6,365-8-9 Arabic and Persian MS. Fund. In addition to this, a sum of Rs. 1,088 has been added to the Reserve Fund from entrance fees paid during the year.

There is an increase in receipts under every head except "Miscellaneous," which has fallen off very slightly.

The ordinary expenditure was estimated at Rs. 17,254-4-0, but the amount paid out was only Rs. 14,134-0-7. The principal items in excess were "Postage," "Freight," "Books," "Proceedings," and the increase was caused by larger transactions and the payment of outstanding printing charges and of Messrs. Luzac and Co's account from April 1902 to October 1904. The actual expenditure on the Journals was Rs. 3,673, against a budget provision of Rs. 6,200. The balance is due on outstanding printing bills.

There were three extraordinary items of expenditure during 1904 under the heads "Furniture," "Pension" and "Building" not provided for in the Budget. New furniture was required, the lavatory arrangements were improved, and on the retirement of the Cashier, a pension of Rs. 112, at the rate of Rs. 20 per month; has been paid to him, and in his place Babu Asutosh Dhur has been appointed.

The expenditure on the Royal Society's Catalogue (including subscriptions sent to the Central Bureau) has been Rs. 5,842, while the receipts under this head from subscriptions received on behalf of the Central Bureau (including the grant from the Government of India) Rs. 5,352. A sum of Rs. 610 is due to the Central Bureau and will be sent.

Four extraordinary items of expenditure were budgetted for. Out of the sum of Rs. 1,000 for the salary of the Assistant engaged in revising the Library Catalogue, Rs. 81 only have been spent, as his services have been dispensed with. Rs. 1,800 were assigned for cleaning, varnishing and relining the Society's pictures, and Rs. 1,306 have been spent; but a sum of Rs. 500 which had been advanced to the late Mr. A. E. Caddy, for cleaning the pictures, has been written off as unrecoverable on his death, and Rs. 566 have been spent on the freight, etc., due on the frames which were procured from England, while their cost has yet to be paid. Rs. 2,320 were paid for renewing the floor of the entrance hall, which is now greatly improved, and Rs. 366 were spent in additions to the lavatory arrangements.

The Budget Estimate of Receipts and Disbursements for 1905 has been fixed as follows:—Receipts Rs. 18,100, Expenditure Rs. 17,654. The item "Rent of Rooms" has been increased, as one room has been rented to the Automobile Association of Bengal at Rs. 50 per month. On the expenditure side, the items "Freight" and "Journal Part III" have been increased, as greater activity is expected. "Insurance" has been reduced by half owing to the removal of the Photographic Society of India. The item, "Registration Fees" has been omitted, as under the Act no fee will be charged for filing copies of the Society's papers. There is a new item of Rs. 192 under the head "Pension."

Three extraordinary items of expenditure have been budgetted for during the year 1905, namely, Rs. 1,000 for the new Library Catalogue, Rs. 2,809 for reframing the pictures, and Rs. 1,220 for white-washing and colourwashing part the Society's premises. Besides these provisions, the application of the special grant of Rs. 10,000 from the Government towards the thorough repair and improvement of the Society's premises is under careful consideration.

BUDGET ESTIMATE FOR 1905.

Receipts.

	1904. Estimate.	1904. Actuals.	1905. Estimate.
	Rs.	Rs.	Rs.
Subscriptions ...	7,500	8,719	7,800
Sale of Publications ...	600	1,053	600
Interest on Investments ...	6,000	6,787	6,000
Rent of Rooms ...	500	730	600
Government Allowances ...	3,000	13,000	3,000
Miscellaneous ...	100	80	100
Total ...	17,700	30,369	18,100

Expenditure.

	Rs.	Rs.	Rs.
Salaries ...	3,800	3,460	3,800
Commission ...	425	376	425
Pension ...	...	...	192
Stationery ...	120	134	120
Lighting and Fans ...	320	218	320
Municipal Taxes ...	884	884	884
Postage ...	500	567	500
Freight ...	75	129	100
Meetings ...	100	105	100
Contingencies ...	500	459	500
Books ...	2,000	2,135	2,000
Binding ...	700	599	700
Journal, Part I ...	2,100	1,437	2,100
" " II ...	2,100	1,381	2,100
" " III ...	2,000	855	2,500
Proceedings ...	600	753	600
Printing Circulars, &c. ...	200	200	200
Registration Fee ...	5	...	...
Auditor's Fee ...	100	100	100
Petty Repairs ...	100	29	100
Insurance ...	625	313	313
	17,254	14,134	17,654

Extraordinary Expenditure.

	1904. Estimate.	1904. Actuals.	1905. Estimate.
Library Catalogue ...	1,000	81	1,000
Royal Society's Catalogue ...	...	5,842	...
Cleaning and Varnishing Pictures ...	1,800	1,306	...
Picture Frames ...	3,000	566	2,809
Repairs ...	2,320	2,686	...
Furniture ...	...	354	...
Pension ...	...	112	...
Building ...	...	78	1,220
	<hr/>	<hr/>	<hr/>
	8,120	11,025	5,029

Agencies.

The Council has transferred the London Agency of the Society—from Messrs. Luzac & Co. to Mr. Bernard Quaritch, 15 Piccadilly.

During the year no publications have been sent to Messrs. Luzac & Co., pending the settlement of the question of Agency, but from them we have received books and papers of the value of £28-13-5. They have submitted a statement of their accounts to the end of October 1904, and the balance of £36-6-11 due to them has been remitted in full settlement of their account.

Two consignments of publications have been sent to Mr. Quaritch since his appointment as the Society's London Agent, amounting to £60-17 and Rs. 533-2, being value of 480 copies of the various issues of the Journals and Proceedings and of 741 fasciculi of the Bibliotheca Indica, respectively.

Our Continental Agent is Mr. Otto Harrassowitz, to whom we have sent publications valued at £19-17-6 and Rs. 560-8, of which £19-14-4 and Rs. 229-11-9 worth have been sold for us.

Library.

The total number of volumes or parts of volumes added to the Library during the year was 2,949, of which 675 were purchased and 2,274 presented or received in exchange for the Society's publications.

The MS. of the new edition of the Society's Library Catalogue, after careful revision by the members of the Library Committee, was sent to the Press at the beginning of January 1905.

The Government of India, with the assent of the Council, decided to publish a combined subject-index of the books in European languages in the Society's Library and the Imperial Library. This is expected to be in print early in 1906.

In continuation of the Council order, the Imperial Library has been allowed to borrow books and MSS. from the Society for the use of its readers until the end of August 1905. During the period from 28th January to 31st December, 1904, 26 books and 5 Manuscripts have been thus borrowed.

In connection with the proposed rejection of certain books from the Society's Library, the General Meeting resolved (1) that the books weeded out by the Committee be rejected and disposed of, the Medical works being placed in a collection by themselves; (2) that the best way of disposing of them is by sale, and that they be accordingly offered for sale; (3) that the first offer be made to the Imperial Library, and that, if it purchases any of these books, the prices of the books be settled between the Council and that Library according to the price-catalogues of Quaritch and other booksellers; (4) that the next offer be made to the Calcutta University, the Presidency and other Colleges and the Medical College, and that the prices of books bought by them be settled similarly; (5) that the remainder of the rejected books be disposed of by public auction under some arrangement by which members and others can bid, and by which real prices may be obtained if possible; and (6) that all books rejected and disposed of be first stamped plainly and indelibly with a special stamp.

International Catalogue of Scientific Literature.

During the year, the two remaining volumes of the first annual issue and the volumes of the second annual issue, with the exception of the volumes on Chemistry, Meteorology, Botany and Zoology have been received and distributed.

Of the third annual issue the volumes on Physics and Astronomy have been published but have not yet been received.

A great falling off among subscribers for the second and subsequent issues has to be here recorded. The Agent to the Governor-General in Rajputana (four sets), the Agent to the Governor-General in Central India (two sets), the Bombay University Library (one set) and the Native General Library, Bombay (one set), are the most important; special part subscribers have in three instances discontinued their subscriptions.

The Director at the Central Bureau was informed of the number of copies thus left in hand, and he advised that they should be returned to London. The books have been packed up and will be sent off soon.

All the subscriptions for the first annual issue, with two or three exceptions, have been received. A sum of £340, representing subscriptions for 20 complete sets; and another sum of £17-15-0 for special parts, have been remitted to the Central Bureau during the year.

The sanction of the Government of India was obtained



during the year to the expense of postage in the distribution of the Catalogue being met from the grant.

Owing to the illness of the clerk during three months of the year a number of index slips were left over; these after being checked by the experts will be despatched shortly. The number of slips sent to London was 71.

Mr. W. D. Wright was appointed Clerk attached to the Regional Bureau of the Royal Society in the place of Mr. J. B. Richardson, resigned.

Elliott Prize for Scientific Research.

A sum of Rs. 1,000 out of the accumulated interest on account of the Elliott Prize Fund in the hands of the Accountant General of Bengal has been invested in $3\frac{1}{2}$ per cent. Government securities; and the Council has decided to reserve the power to make use of this investment, if required by the Trustees, in awarding the prize.

Barclay Memorial Medal.

In connection with the Barclay Memorial Medal, the following gentlemen were appointed to form a special Committee to make the award during 1905—Captain L. Rogers, I.M.S., the Natural History Secretary; Mr. N. Annandale, Captain A. T. Gage, I.M.S., Mr. H. H. Hayden, and Major F. J. Drury, I.M.S.

The Society's Premises and Property.

The Council met several times to consider a letter from the Secretary to the Trustees of the Victoria Memorial, suggesting the loan of certain portraits and other objects of interest to the Victoria Memorial Hall, and, on the matter being referred to the general body of members, under rule 64A, it has been decided to lend certain specified objects for exhibition in the Victoria Memorial Hall, namely, the following portraits and other objects:—

- Two portraits of the Society's founder Sir William Jones (one of him as a youth and the other in middle age) (Nos. 67 and 41);
- the portrait of Warren Hastings (No. 65);
- the bust of James Prinsep (No. 19);
- the old cannon of Mir Jumlu (No. 2);
- a Ms. of the Gulistan (No. 114);
- a Ms. of the Bādshāh-nāma (No. 118);
- three old copper-plate inscriptions (No. 126, found at Amgāchi; No. 135, found in the Sambalpur district; and No. 136, found at Angāsi);
- a stone edict of King Aśoka (No. 25);

- a portrait of Shāh Ghāzi-ud-din Haidar, King of Oudh (No. 26);
- a portrait of James Grant Duff, author of the "History of the Mahrattas" (No. 51);
- a painting of the interview between the Governor-General and the Raja of Kota, (No. 107); and
- a portrait of Nasarat Jang, Nawab of Dacca (No. 91).

This decision was communicated to the Trustees. They asked that these objects might be placed at their disposal at once, with the exception of the Aśoka stone, for exhibition along with the other Victoria Memorial Exhibits in the galleries of the Indian Museum, and the Council have handed over the objects for exhibition in the Indian Museum Gallery during the cold season of 1904-5 with the request that the objects be returned when the exhibition closes, to be on view in the Society's rooms.

During the year certain portions of the Society's rooms were whitewashed and colourwashed; and the Council has now under consideration a proposal to execute thorough repairs and certain structural improvements in the Society's building. The cost will be great, but will be chiefly met out of a grant of Rs. 10,000 which the Government of India has generously made to the Society for the purpose. The estimates are now under consideration.

All the pictures of the Society have been cleaned and varnished at a cost of Rs. 1,306, and new frames have been received from London. The pictures will be reframed as soon as possible.

Exchange of Publications.

During 1904, the Council accepted eight applications for exchange of publications, viz: (1) from the Botanic Institute of Buitenzorg, Java, the Society's Journal Part II and Proceedings being exchanged for their "Annals" and "Icones Bogorienses"; (2) from the Schlesische Gesellschaft für vaterländische Cultur, Breslau, the Society's Journal Parts I—III and Proceedings being exchanged for the publications of that Society; (3) from the University of Montana, the Society's Journal Parts II and III for the "Bulletin"; (4) from the R. Accademia dei Lincei, Rome, the Society's Journal Part I—III and Proceedings being exchanged for the publications of the Academy; (5) from the Société d'Ethnographie, Paris, the Society's Journal Part III, for their "Bulletin"; (6) from the Société Royale Belge de Géographie, Brussels, the Society's Journal Part III being exchanged for their "Bulletin"; (7) from the Department of Fisheries, Sydney, the Society's Journal Part II, for their "Report"; and (8) from the Archæological Survey Department of India, the Society's Journal Parts I and III being exchanged for the publications of that Department.

In addition to these exchanges, the Imperial Library

and the Lucknow Provincial Museum have been placed on the distribution list of the Society's publications.

Secretaries and Treasurer.

Dr. E. D. Ross carried on the duties of Philological Secretary till April, when Dr. T. Bloch returned from tour and took charge of the office in addition to the editorship to the *Journal Part I*, and the numismatic work which he had retained. Dr. Bloch continued till November; he left then on tour, and Dr. Ross consented to undertake both the duties, while Mr. H. N. Wright was in charge of the numismatic work.

Captain L. Rogers, I.M.S., continued Natural History Secretary and editor of the *Journal Part II*, throughout the year.

Dr. Ross continued Anthropological Secretary and editor of the *Journal Part III*, till July, when he left India on leave for three months, and Mr. J. Macfarlane took charge of his work during the interval. In December, Mr. N. Annandale was permanently appointed Anthropological Secretary in the place of Dr. Ross, who resigned.

Dr. C. R. Wilson continued to be Treasurer till April, when he left for Darjeeling. The Hon. Mr. Justice Asutosh Mukhopadhyaya consented to officiate during his absence, and when Dr. Wilson resigned his office, because of ill-health in May, he was appointed permanently to this position. During October he left Calcutta for a few weeks and Mr. W. K. Dods officiated for him.

Mr. Macfarlane continued General Secretary and editor of the *Proceedings* throughout the year, except during three months, from May to July, when he went to Europe on leave, and Lt.-Col. J. H. Tull Walsh, I.M.S., took charge of the work.

Mahamahopadhyaya Haraprasad Shastri, was in charge of the Bibliotheca Indica and the Search for Sanskrit Manuscripts, and carried on the duties of the Joint Philological Secretary throughout the year.

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

Publications.

There were published during the year ten numbers of the *Proceedings* (Nos. 9—11 of 1903 and Nos. 1—7 of 1904) containing 115 pages.

Of the *Journal*, Part I, five numbers were published (No. 2 of 1903 and Nos. 1—4 of 1904) containing 472 pages and 9 plates. The Numismatic Supplement has been published in *Journal Part I*, nos. 1, 2 and 4, under the editorship of Mr. Wright.

Of the *Journal Part II*, six numbers were published (No. 4

of 1903 and Nos. 1—5 of 1904) containing 358 pages and 9 plates. The Index for 1903 was also published.

Of the Journal Part III four numbers were published (Nos. 1—4 of 1904) containing 77 pages and 4 plates. The Index for 1903 was also published.

The other publications issued during the year were the 4th fasciculus of the Catalogue of the Society's Sanskrit Books and Manuscripts, and the 2nd fasciculus of the Catalogue of the Society's Arabic Books and Manuscripts.

Proceedings.

All important papers noticed in the Proceedings have appeared in full in the various parts of the Journal, only small papers and abstracts of the important papers being published in the Proceedings. The Rev. P. O. Bodding contributed a paper on Shoulder-headed and other forms of stone implements in the Santal Parganas. Of the implements those with square edges are supposed to be very rare in India. Mr. E. H. Walsh described certain stone implements found in the Darjeeling District, which are locally believed to be the weapons of gods and to possess various protective and medicinal powers. Mr. C. Little contributed two papers, one on the Himalayan Summer Storm of September 24th 1903, and the other on the Cyclone of 13th November 1903 in the Bay of Bengal; both have been published in the Journal with maps. Mahāmahopādhyāya Haraprasād Sastri exhibited two Bengali documents obtained from Rāi Jadunāth Mozumdār Bahādur of Jessore, in which the executant purported to sell himself and his family into slavery. One was executed during the later part of the Emperor Aurangzeb's reign and the other during the great famine of 1176 B.S. Among other exhibitions one may be mentioned by Pundit Yogeśa Chandra Sāstree of two important copper-plate grants from Rajputana and Guzerat and a beautiful image of Manjunath, a Buddhist deity, brought from Lhassa. Major P. R. T. Gurdon, I.A., contributed Notes on the Khasis, Syntengs, and allied tribes inhabiting Khasia Jaintia hill district in Assam. These tribes are matriarchal; and among them the youngest daughter inherits from the mother; failing daughters, the property passes to the youngest niece; and failing a niece, to the youngest female cousin. Babu J. M. Dass in his paper "Notes on the titles used in Orissa" said that the Oria people are very fond of titles, which they accept not only from the Raja of Puri but also from great landlords and even from their castemen, while new titles are still being invented.

Journal Part I.

Five numbers were published during the year under review, namely, No. 2 of Vol. LXXII and Nos. 1-4 of Vol. LXXIII. The

papers published in these numbers are of historical and linguistic value and ranged from the 6th century B.C. to the 19th century and from the Eastern extremity of Assam to the Western provinces of the Indian Empire.

Taking the papers chronologically :—Babu Parmeshwar Doyal identified the Prāgbodhi cave, where Buddha sat in meditation for some time before he came to Budh Gaya, with a stone chamber about 14 or 15 li from the Bodhi tree in the range of hills called by General Cunningham, Prāgbodhi mountain. The chamber, says the writer, had never before been visited by an antiquarian.

The late lamented Dr. C. R. Wilson identified Sandanes of the Periplus with Sundara Sātakarṇi of the Purāṇas and placed his short reign between 83 and 84 A.D.

Babu Gangamohan Laskar, a research scholar, has deciphered three copper-plates from Khurda written in what is called the Kuṭila variety of the Nāgarī character and placed the donor of the grant before the latter half of the 7th century. These plates give some information about the Sailodbhava dynasty of Kalinga, with seven kings. This dynasty was already known from the Baguḍa plates explained by Dr. Kielhorn.

Mr. W. N. Edwards and Mr. H. H. Mann described some interesting fortifications situated just over the boundary line of British territory in the independent Daphla country and gave the local traditions connected with them. These traditions reach back to the 13th century of the Christian era.

Babu Monmohan Chakravarti's paper on the Chronology of the Eastern Gaṅga kings of Orissa has already been referred to in the last Annual Report. It is a scholarly paper giving a collected history of these kings from the 11th century to the 15th century based upon inscriptions. The author says, " Their history (*i.e.* of the kings of the Gaṅga dynasty) now rests on surer grounds than the unreliable traditions embodied in the Mādala Pāñji."

The works of the genealogists or ghaṭakas of Bengal have never been explored by Oriental scholars, yet they embody valuable information about the great races inhabiting Eastern India from the 7th century downwards. For this reason we welcome Pundit Yogeśa Chandra Śāstree's paper on the Kap section of the Varendra class of Brahmans, though short, as the beginning of an important line of research.

Coming down to Mahommedan history, Mr. Beveridge has criticised General Maclagan's paper on the Jesuit Mission to the Emperor Akbar published in our Journal for 1896, p. 38, and a portion of Dr. Wise's paper on the " Bāra Bhūyas of Eastern Bengal " published in our Journal for 1874. In the former the writer expatiated on certain chapters of the *Ain-i-Akbari* dealing with the position of Akbar as a founder of a religion ; and in the latter the author gave much valuable additional information about Isā Khān, one of the twelve Bhūyas. Mr. W. Irvine's monograph on the Later Mughals is continued. Mr. J. F. Fanthome's paper

headed "A Forgotten City" deals with Nagarchain, the halting-station or villa of the Emperor Akbar, a few miles from Agra, which rose to be a city in the early part of his reign but was lost sight of before his death, and can with difficulty be identified at the present moment.

"The Mints of the Mughal Emperors," by Mr. Burn, gives a list of the mint towns of the Mughal Emperors arranged in alphabetical order and divided into chronological sections. Mirza Mehdy Khan criticised the translation of the Quatrains of Baba Tahir by Mr. Heron-Allen and gave an edition of these. Mr. H. R. Nevill's paper on Mahals in Sarkar Lakhnau and Maulavi Abdul Wali's paper on the Antiquity and Traditions of Shahzadpur, throw some light on obscure points of Mohammedan history.

Coming to modern History, Babu Gerindranath Dutt's history of the Hutwa Raj is an important contribution on the struggles which the English Government had in the revenue settlement of the Provinces of Lower Bengal for 30 years or more from the date of the Diwani. When writing in our Proceedings for 1888 on the Dutch hatchments in Chinsura Church, Mr. Beames left some initials undeciphered. The late Dr. C. R. Wilson studied Dutch heraldry and identified these names. His paper is to be found in vol. LXXIII, No. 3.

Of the linguistic papers the most important is that by Major P. R. T. Gurdon on the Morans, a tribe inhabiting the hills in the Assam valley. By a comparison of the words in their language with those of Kacharis, Bodos and Dimasas, Major Gurdon says that they are allied to the Kacharis. Babu Gerindranath Dutt's paper on the Bhojpur dialects spoken in Saran is a revised edition of the notes supplied by him to the Linguistic Survey.

Of the Tibetan papers, those by Mr. E. H. Walsh have already been noticed in the last Report. The only interesting additional paper received during the year under review is by Rev. A. H. Francke entitled "A Language Map of West Tibet with notes" prepared for the benefit of the students of his Ladaki Grammar.

There has unfortunately been some irregularity in the issue of the Society's Journal, Part I, and it has now been decided to issue the Journals promptly, publishing such material as is available, and at least quarterly.

Journal Part II.

The past year has been one of great activity in the Natural History section of the Society, no less than six numbers of Part II of the Journal having been issued with 358 pages and nine illustrative plates, this quantity being more than three times as much as in the preceding year. This is due partly to the fact that some papers read during 1903 were published during the past year, and partly to the greater efforts that have been made to publish papers

more rapidly than has hitherto been done; hence only two papers read recently remained in hand at the end of the year.

Botany has been specially well represented. The papers published include two important memoirs on "Materials for a Flora of the Malayan Peninsula" by Sir George King and Mr. J. S. Gamble, in which the natural orders Caprifoliaceæ and Rubiaceæ are dealt with; Nos XXI to XXIV of the *Noviciæ Indicæ* and three other papers describing new plants by Major D. Prain, I.M.S.; two joint papers by Major Prain and Mr. I. H. Burkill on *Dioscoreæ* or Yams; and one by Mr. J. R. Drummond on a new *Scirpus*.

The Zoological contributions include three papers on the life-history of certain insects of economic importance, by Mr. E. P. Stebbing, a paper on Additions to the Oriental Snakes at the Indian Museum by Mr. Nelson Annandale, and another by the same author (not yet published) on the Lizards of the Andamans.

Among the other contributions of interest must be mentioned a series of four papers, illustrated by plates, on "Cyclones in the Bay of Bengal" and on "Himalayan Summer Storms" by Mr. C. Little, and two by Mr. D. Hooper on the occurrence of Melanterite in Baluchistan and on Rusot, an ancient Eastern Medicine.

Adopting a proposal made by Major Prain, I.M.S., the Council resolved to hasten the publication of Sir George King's "Materials for a Flora of the Malayan Peninsula" by having it printed in London, and to issue it as an "Extra Number" of the Society's Journal, Part II.

Journal Part III.

Four numbers have been issued, three containing supplements as well as long communications. The papers are of considerable importance, for they are concise statements by men who have had opportunities of studying the less accessible Indian races or the archaeology of interesting localities. Mr. J. E. Friend-Pereira contributed an Essay on the septs of the Khonds and the customs which regulate intermarriage among them; the Rev. E. M. Gordon and Major P. R. T. Gurdon have dealt, chiefly from a cultural standpoint, with primitive tribes in the Bilaspore district and in Assam respectively; the Rev. P. O. Boddington and Mr. E. H. Walsh have described stone implements from different parts of India; and various authors have furnished shorter notes and papers on other points in ethnography or sociology. The matter printed fills 77 pages and is illustrated with four photographic plates.

It has been decided that the subject of National Indian Hymns and Popular Chants might well be taken up by the members of the Society in connection with the Journal Part III.

Coins.

Ten copper coins and 13 silver coins have been presented

to the Society in 1904. The copper coins belong to the following Pathān Sultans of Delhi:—

Jalāluddin Firoz Shāh	...	...	1
'Atā'uddin Muḥammad Shāh	...	...	1
Muḥammad ibn Tughlaq Shāh	...	...	1
Firoz Shāh Tughlaq	...	...	6
" with Fath Khān	...	...	1

Of the 13 silver coins 4 are coins of the East India Company struck in the name of Shāh 'Ālam at the Muḥammadābād-Benares Mint; one belongs to the kings of Oudh, and the remaining eight are coins of the following Mughal Emperors:—

Jahāngir	...	...	1
Aurangzeb	...	...	1
Farrukhsiyar	...	...	1
Muḥammad Shāh	...	...	1
Aḥmad Shāh	...	...	2
'Ālamgir II.	...	...	1
Shāh 'Ālam II.	...	...	1

In accordance with the Council order to lend to the Trustees of the Indian Museum as many of the Society's coins as may be required by them for the purpose of classification and exhibition along with the Museum coins, all the coins have been made over to the Indian Museum for selection and for return of the remainder not required by them.

In July 1904, the Council resolved to separate the Society's numismatic work from that of the Philological Secretary, and Mr. H. Nelson Wright, I.C.S., was appointed Honorary Numismatist of the Society.

Bibliotheca Indica.

In the year 1903, thirty-five fasciculi were published—a larger number than in any previous year. During 1904, however, forty-two fasciculi have been published, showing an unprecedented activity in the publication of the Bibliotheca Indica.

The cost of printing these forty-two fasciculi is Rs. 1,076 and the cost of editing Rs. 4,971; the average cost for each fasciculus being Rs. 375.

These fasciculi contain twenty-five works, of which two are in the Arabic-Persian and the rest in the Sanskrit series. According to resolution of the Council a description is to be given in the annual report only of such works as are either commenced or ended. In the case of the first, the description serves as an introduction and in the case of the last as an advertisement. The Arabic-Persian series contains translation of the Akbarnāmah and Riyāzu-s-Salātin. In the Sanskrit series too there are three English translations, namely, Mārkaṇḍeya Purāna, Tantra Vārtika and Sloka Vārtika. The last

two are editions of Sanskrit works of rare value which have no chance of being published by private enterprise. Two of these belong to Jaina literature, namely, the *Tattvārthādhigama Sūtra* and *Upamitibhava-prapañcā kathā*; the first was composed by *Umāsvatī Vācaka* in the 1st Century A.D. at *Pātaliputra*, and the second by *Siddharṣi*, reputed to be the brother's son of the poet *Māgha*, in the beginning of the 10th century. There are two Buddhist works among these, namely, the *Bodhicaryāvatāra* by *Sānti Deva* in the 7th century, and the *Śatasāhasrika Prajñāprāmītā* attributed to *Nāgārjuna*, the founder or at least the first great writer of the *Mahāyāna* School, in the 2nd century A.D. Several other works are in the course of publication of which no mention is made here, since no fasciculi have been published during the year.

Of the *Brāhmanic* Sanskrit works two belong to the *Orissa* school of *Smṛti*, two to the *Bengal*, one to the *Bombay*, and one to the *Benares* school; one to the *Rāmānuja* School of the *Vedānta*, one to the *Sāṅkara* School, and to the *Mīmāṃsā* School.

Of the works that have been completed, the *Riyāz-ūs-Salāṭīn* belongs to the *Arabic-Persian* series. It is an *English* translation of a history of *Bengal* composed by *Ghulam Husain Salim* between 1786 and 1789. The translation has been made by *Maulavi Abdus Salam, M.A.*, of the *Bengal Provincial Service*, and he has elucidated it with ample footnotes and enriched it with an elaborate table of proper names. The *Riyāz-ūs-Salāṭīn* is the only comprehensive history of *Bengal*, and *Stewart's History of Bengal* is based upon it. *Dr. Blochmann* long ago strongly recommended that it should be translated, and the translation has now been accomplished.

Since *H. H. Wilson* translated the *Viṣṇu Purāṇa*, no sustained effort was made to translate any other *Purāṇa* till in 1884 *Mr. Justice Pargiter* (now our *President*) undertook the translation of the *Mārkaṇḍeya Purāṇa*. Onerous official duties and other difficulties impeded the preparation of the work with the notes. The progress was slow, but the translation has at length been brought to a close. It is accompanied by a full index and a preface in which the translator expresses the opinion that the *Purāṇa* had its origin in the *Narbada valley*, and that parts of it may be as old as, if not older than, the *Christian era*.

Godādhara Rājaguru, who flourished by the middle of the 18th Century, was the spiritual guide of the *Gajapati Rājās* of *Puri*. He compiled a complete code of *Hindu law and ritual* for *Orissa*. As no *Hindu work* from *Orissa* had ever been published, the publication of this work was thought desirable, and it was placed in the hands of *Paṇḍit Sadā Siva Miśra*, a well-known *paṇḍit* of *Orissa*. The work consists of three volumes, of which the first has been completed with an elaborate index.

Last year was notified the completion of the *Varāṅkriyā Kauṁḍi*, by *Govindānanda Kavikaṅkanācārya*; and the other work by the same author, belonging to the same code of *Hindu law* and

ritual, has been completed this year, namely the *Śrāddhakriyā Kaumudī*, by the same young editor Paṇḍit Kamaḷa Kṛṣṇa Smṛtibhāṣaṇa of Bhāṭpārā. He has added a full subject index of the work.

The new works undertaken during the year are:—

The Baudhāyana Śrauta Sūtra. Professor Hillebrandt of Breslau, the great authority on Vedic subjects, undertook the edition of three Vedic works for the Bibliotheca Indica, namely, Sāṅkhāyana, Baudhāyana and Hiranya-Keśi's Śrauta Sūtras. He completed the Sāṅkhāyana Sūtra and transferred (with the consent of the Council) the editorship of Baudhāyana's work to Dr. W. Caland of Utrecht. Dr. Caland has published two fasciculi of the work during the year under review. Baudhāyana's School is still current in Southern India, and he seems to have flourished several centuries before Christ.

The Bālabhaṭṭi or Lakṣmī is a commentary on the *Mitākṣarā*, by Bālabhaṭṭa Pāyagūḍa of Benares in the 18th century. It is an important work on the Hindu Law of the Benares school, and the Hon'ble Mr. Justice Aśutosh Mukhopādhyāya obtained the permission of the Council to edit it. But his numerous engagements afforded him little leisure, and the editorship was transferred to Babu Govinda Dās of Benares, who has published the first fasciculus during the year under review.

The Caturvarga Cintāmaṇi, by Hemādri, the Minister of the Yādava Kings of Devagiri, about the middle of the 13th century, is an encyclopedic work on Hindu Laws and rituals of great value. As it quotes from a variety of works, the publication of the entire work was considered forty years ago to be of great importance, as giving the names of Sanskrit works existing before Hemādri's time. The work is divided in parts or kaṇḍas, three of which have already been published during the last forty years. MSS. of the other parts not being procurable, the publication was kept in abeyance. During the past two years, however, the MS. of a fourth part, the Prāyaścitta-kaṇḍa, being available, the Council requested Paṇḍit Pramatha Nāth Tarkabhūṣaṇ, Sanskrit Professor in the Sanskrit College, Calcutta, to undertake the editing of it. He has issued three fasciculi of the work this year.

The Vallāla-carita purports to be biography of Vellāla Sena, a great King of Bengal who reigned during the middle of the 12th century. It was composed from old materials by Ānanda Bhaṭṭa in the beginning of the 16th century at Navadvīpa. Several incomplete and partial reprints of the work were published in the Bengali character in Calcutta, but no authentic MS. was forthcoming. During the caste agitation that arose after the census of 1901, two authentic MSS. of the work, were placed in the hands of Mahāmahopādhyāya Haraprasād Sāstri, and the Council requested him to publish the work in Deva Nāgarī with an English translation and historical notes. The first fasciculus has been published containing the text only. The translation and notes are in the course of preparation.

Search for Sanskrit MSS.

This department of the Society's work was, as in previous years, in the hands of the Joint Philological Secretary. He paid several visits to Benares and other places, and with the assistance of his travelling pandits collected more than 1,200 MSS. and about 300 notices of MSS. So much material has been collected that it is now possible to give a connected history of Hindu literature during the whole of the Mohammadan period and to check in many important instances the statements of Mohammadan historians about the Hindus. A complete list of the names of the MSS. in the entire Government collection, now amounting to nearly 7,000 MSS., has been prepared in alphabetical order for publication. The second volume of the second series of notices of Sanskrit MSS. has been published. The third volume has been printed, and the Nepal Catalogue is in type; and both will shortly be published. The fourth and fifth volume are ready in manuscript and will soon be sent to press.

The President was empowered to apply to the Government of India for a special grant for the purchase of about 2,000 Jaina works in Sanskrit, Prakrit, Guzerati, Hindi, Marwari and other languages on behalf of the Government, if, on further examination of the manuscripts, he is assured that the collection is valuable enough to warrant such an application. The application has been made.

The notices of Hindi manuscripts collected by the Society's agents during the year 1895 have been made over to the Nāgariprachārini Sabhā of Benares for publication at the Society's cost.

Search for Arabic and Persian Manuscripts.

In answer to the representation made by the Society to the Government of India, in favour of a systematic search for Arabic and Persian MSS., the Government approved of the scheme and sanctioned an annual grant of Rs. 5,000 for a period of five years for its prosecution, and a further annual grant of Rs. 2,000 for the same period, for the purchase of manuscripts of exceptional value and interest. The search is in charge of Dr. Ross, and he has appointed two Travelling Maulavis and a Resident Maulavi to assist him in this work.

The Report having been read and some copies having been distributed, The Hon'ble Mr. Pargiter, President, gave his Annual Address.

Annual Address, 1904.

The Secretaries have laid before you their combined report setting out briefly the business that has been transacted by the

Society or that has come before it during the past year, and it remains for me to offer some remarks on its affairs during the same period.

The matter that engrossed the largest share of time has been the preparation of the new catalogue of the books in the Society's Library. The catalogue now in use was published twenty years ago, when the Society celebrated its centenary, and the need of a revised one has been felt for some years past. A new catalogue has been gradually compiled in manuscript, and there remained the arduous business of making a thorough revision of it. This has been carried through by the Library Committee with the help of the General Secretary, who, as a skilled librarian, was specially qualified to deal with it. The members of the Committee have given liberally of their time and have held many meetings to complete the revision; and but for the care, and I may say devotion, which they and the Secretary have bestowed on it, it could not have been carried through with any expectation that the catalogue would be full, accurate and useful. In this matter two tasks called for special consideration—first, the revision of the Library itself and the separating out of books and pamphlets that are not needed by the Society; and secondly, the framing of the entries in the most serviceable shape.

A considerable quantity of publications had accumulated which appeared to be either superfluous or of too little use to the members, and it was desirable to remove them because of the limited space and for economy. These were separated as the revision went on. The principles adopted were two, first, that the Library should aim at completeness in all publications relating to Asia in conformity with the Society's name and scope, whatever might be their character or value, official reports and publications being placed in a separate category; and secondly, that the Library could not maintain works relating to other parts of the world except such as are of general interest and high reputation. Yet the process of exclusion was applied with so conservative a spirit that nothing was put out unless the members of the Committee were unanimous. A list of the works thus excluded was laid before the monthly meeting in June for general consideration, and has been passed without objection. These will be disposed of as mentioned in the Report.

The second task dealt with the method of cataloguing the names of Oriental authors, and the Committee decided that no single method was feasible, and that the most convenient course was that, while the names of authors now living or recently deceased should be spelt as the authors themselves Anglicized them, the names of all others should be transliterated correctly in the headings according to the system approved by the Society.

The catalogue is now in the press, and the Council trust that it will be as complete, accurate and useful as is possible in such an undertaking. When it is published, members will be able to keep

their copies correct up to date, since lists of the additions are published quarterly with the Proceedings.

Another important matter was the part which the Society was able to take in contributing to the objects to be exhibited in the Victoria Memorial Hall. The Society's existence is nearly coeval with British rule in Bengal, and it has represented the linguistic, scientific and literary activity of this rule. It has numbered among its members, besides its founder, some of the most distinguished men whose services have helped to make India what it is now, and it possesses unique memorials of them. The members resolved, with but little difference of opinion, to lend some of the most interesting of their treasures to the Trustees of the Memorial Hall to be exhibited there. The Society is gratified at this public recognition of its achievements, and cannot but gain by the wider interest which the exhibition of these objects will arouse among those who will visit the Memorial.

The collection of Oriental MSS. is an important branch of the Society's work. The Society has received during many years an annual grant from the Government for the systematic search after and the purchase of Sanskrit MSS. This is in the charge of the Joint Philological Secretary, Mahāmahopādhyāya Haraprasād Sāstri. He has found and acquired a large number of valuable and interesting writings. No similar measures have hitherto been taken to collect Persian and Arabic MSS. from among the stores that exist in this country, except such as private persons have undertaken at times on their own behalf; but during the past year the Government of India has generously assigned a further annual grant in order that a systematic search may be made for those classes of writings, and that valuable MSS. may be bought and preserved here in the same way as Sanskrit MSS. This business has been placed in the hands of the present Philological Secretary, Dr. Ross, and he has been prosecuting an active search with the aid of maulavis during the last five months. He has discovered a number of private libraries that were not known to us before; the works in them have been examined, and what has been already found offers sanguine expectations that the grant will enrich our collection with writings of the highest interest and value, especially for historical purposes. I may add that the recent expedition to Thibet has brought to light a quantity of Thibetan MSS.; these have been placed temporarily in the Imperial Library here and are available for study.

The Society has about 600 Jain manuscripts in its custody at present. These are not always easy to be obtained, because the Jains do not part with their writings readily. Mahāmahopādhyāya Haraprasād Sāstri has however recently learnt of a valuable collection of such manuscripts, comprising nearly two thousand works or portions of works, and the owner, who is not a Jain, is willing to sell them. It is very desirable that they should be secured. An application has been made to the Government of India for special

aid towards their purchase, and if they can be bought, the total collection of Jain manuscripts which will be in the Society's custody will be the finest in the world.

These collections demand that the fullest use should be made of them, and one of the first duties will be to compile descriptive catalogues of the Persian, Arabic and Jain manuscripts, as has been done for the Sanskrit manuscripts. In all this fresh work we must look more to our Indian members to prosecute the research necessary. Some use is made of these manuscripts by scholars in Europe, and by European scholars resident in this country; but the number of the latter is very small and will probably be fewer in the future. Members of the Government Services can only give of the leisure, which they can spare from their official duties, towards qualifying themselves in Oriental learning and studying Oriental works; and they are less able year by year to find leisure for such studies. Their official duties increase and become more exacting, and do not in any way conduce towards acquiring any thorough acquaintance with ancient learning. The two pursuits have been continually diverging more and more markedly. Moreover, to add to the hesitation that besets Oriental study here, the standard of Oriental attainments required rises with the additional knowledge that is continually accumulated by scholars in Europe. These and other reasons deter members of those Services from attempting original research in these fields, and there are very few, if any, inducements. The opportunities therefore are all the ampler for Indian students, and a career of distinction is open to them, if they will carry on their investigations according to the standard of European scholarship. This is, no doubt, not a simple qualification, yet it is essential; and those of them are fortunate who can receive some part of their training from European teachers. It is very much to be wished that more training of this kind should be available for them.

The scientific side of the Society's work, on the other hand, should increase in the future. The Scientific Departments of the Government have been strengthened. Among the members of those services there is no such disagreement between official duties and private pursuits; but the two blend and strengthen each other, and scientific research and professional success go hand in hand. For scientific investigation, therefore, there are the most encouraging inducements. Moreover, as private enterprise develops the resources of the country, Science will be applied to those objects in larger measure, and the number of workers in scientific fields should steadily increase. The Society must hope that it will receive the benefit of all such investigations in future, and that more scientific papers will be contributed to its Journal rather than communicated to the publications of the various Societies in England.

A matter that concerns us closely is the style in which our Proceedings and Journal are published. This is now under consideration. The present style is what was adopted many years ago,

and the Council desire to improve and probably enlarge these publications and add more illustrations, so as to suit the requirements of the present day better. Efforts are also being made to issue our publications promptly, and the Council hope that members will contribute papers the more readily in that the Journal will then supply them with a greater quantity of matter of varied interest. These modifications should tend to increase the sale of our publications in Europe; and the Report mentions the change which has been made in the Society's agency in London to secure a readier, larger and more remunerative disposal. Our thanks are due to Mr. Macfarlane who arranged the new terms during his visit home on leave last year.

Steady progress has been made in the publication of the *Bibliotheca Indica*. Mr. Beveridge has finished his translation of the *Akbarnāma*; fresh work will be placed in his hands, and it is hoped arrangements may be made for additional works on the Persian and Arabic side, which has of late years rather given way to the Sanskrit side. This should be one of the first results of the systematic search that (as I have mentioned) is being made for Persian and Arabic manuscripts. Among Sanskrit writings the Society should, I think, pay more attention to various old works in future, more represent rather the general or popular side of literature. Archaeological discoveries in ancient countries have shewn that the accounts handed down from ancient times are not as fictitious as was imagined formerly, but contain much substantial truth. This should be found true in India also. With regard to the *Purāṇas*, for instance, recent researches have indicated that they are more ancient than was conjectured a generation ago. Professor Wilson estimated their age as lying between the eighth and thirteenth centuries approximately, but it now seems that all of them were composed earlier, most of them before the seventh century, and some at least in the earliest centuries of the Christian era. Similarly the *Tantras* appear to be more ancient than was imagined, and a study of them will throw much needed light on a very wide and obscure though important subject, namely, on various phases of the popular forms of Hindu religion of modern times and of the present day. The Society might well turn part of its attention to these and other original compositions rather than towards editing commentaries, which are admittedly of comparatively modern origin.

Much attention has been given to the Society's house, and various repairs and improvements have been carried out. Through the generosity of the Government of India the munificent sum of Rs. 10,000 was granted for the further improvement of this building. Proposals and estimates have been drawn up and are now under consideration, and when the Council has decided how the funds at its disposal can be best utilized, the alterations will be undertaken and should be finished this year.

The valuable pictures which the Society possesses, either as its own or as Trustee of the Home Bequest, required renovation. They

have been cleaned, re-stretched and varnished. Fresh frames were selected by the late President, the Hon. Mr. Bolton, in London, and have recently arrived. The pictures are now being placed in their new frames and will be re-hung, when the repairs to the building are completed, and re-arranged so as to show to better advantage. The expense has been great, but the renovation should suffice for many years.

The Report shows that the list of the Society's members has increased so as to stand now at a higher number than it has ever recorded in the past. This is of good augury for the future, and we trust that among the new members many will contribute not only their interest in the Society's business, but also the results of travels and inquiries. The inquiries that were open to members in the Society's early days were many and wide, and offered all the attraction and interest that newly-discovered fields possess, where all information is welcome; but the conditions of research have greatly altered now. In the settled Provinces of India, no doubt, the harvest of investigation has been freely reaped, and what more is to be gathered becomes rather the work of specialists and experts. The field of Indian investigation has been surveyed and described, and the work that remains is for those who can bring minds, unburdened with other demands and replete with knowledge, to the elucidation of the problems and difficulties that have arisen out of the general survey. Yet much valuable ethnological information still awaits the gathering among the ruder tribes, especially in the outlying Provinces. To members who have such opportunities the ethnological side of the Society's researches offers ample scope for investigation, and if they will make careful and systematic notes about those tribes and their languages, customs and religion, they can supply facts of real interest and value, as regards both the early conditions of such tribes and also the changes that are being worked among them by the influence of Hinduism.

I will conclude by mentioning some matters of interest which lie outside the Society, but in which members have taken or are taking a part.

A Buddhist Sanskrit Appendix was compiled to Rai Sarat Chandra Das' Thibetan Dictionary under the auspices of the Government, and the Government has recently placed it in the capable hands of M. de La Vallée Poussin in Belgium, in order that it may receive a finishing revision from a European scholar.

The Archæological Department of Government has published its first annual volume. It covers the whole ground of such research and sets out most interesting discoveries with a wealth of detailed information.

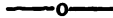
A book of great interest has lately been published by Mr. Vincent Smith on the early history of India from B.C. 600 to the Mohammedan conquest. It brings the latest discoveries to elucidate that long and most important period, and will be of signal service to students in this country. Prof. Thibant has published in the séries

of Sacred Books of the East a translation of Rāmānuja's great work, the *Sribhāṣya*, which is a commentary on the Vedānta Sūtras and is the standard book of the Vaiṣṇavas of South India. Dr. Grierson has published two more parts of his monumental work in the Linguistic Survey of India.

A Flora of the Panjab is now under compilation, and the duty has been entrusted by the Government to Mr. Drummond of the Civil Service.

The Imperial Academy of Sciences of Vienna wished to obtain a record of Sanskrit recitation and music for the study of ancient texts, and Dr. Exner, who is now in India, succeeded in obtaining the best results that are possible in Calcutta with the aid of a phonograph, as selected passages were recited by the best qualified paṇḍits.

The Bombay Branch of the Royal Asiatic Society has just celebrated its centenary, and the Council arranged that three of our members should attend and offer it our congratulations.



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 A. H. L. Fraser, M.A., LL.D., K.C.S.I.

Vice-Presidents.

The Hon. Mr. Justice Asutosh Mukhopadhyaya, M.A., D.L.,
F.R.A.S., F.R.S.E.

T. H. Holland, Esq., F.G.S., F.R.S.

C. W. McMinn, Esq., I.C.S. (retired).

Secretary and Treasurer.

Honorary General Secretary:—J. Macfarlane, Esq.

Treasurer:—The Hon. Mr. Justice Asutosh Mukhopadhyaya,
M.A., D.L., F.R.A.S., F.R.S.E.

Additional Secretaries.

Philological Secretary:—E. D. Ross, Esq., Ph.D.

Natural History Secretary:—Capt. L. Rogers, M.D., B.Sc.,
I.M.S.

Anthropological Secretary:—N. Annandale, Esq., B.A.

Joint Philological Secretary:—Mahamahopadhyaya Har-
prasad Shastri, M.A.

Other Members of Council.

The Hon. Mr. Justice F. E. Pargiter, B.A., I.C.S.
 Kumar Ramessur Maliah.
 I. H. Burkill, Esq., M.A.
 H. E. Kempthorne, Esq.
 W. D. Dods, Esq.
 The Hon. Mr. A. Earle, I.C.S.
 Lt.-Col. J. H. Tull Walsh, I.M.S.
 R. O. Lees, Esq.
 H. H. Hayden, Esq., B.A., F.G.S.
 E. Thornton, Esq., F.R.I.B.A.

The Meeting was then resolved into the Ordinary General Meeting.

HIS EXCELLENCY LORD CURZON, G.M.S.I., G.M.I.E., Patron, in the chair.

The minutes of the last meeting were read and confirmed.

Thirty-six presentations were announced.

Mr. J. De Grey Downing and Captain G. W. Megaw, I.M.S., were balloted for and elected Ordinary Members.

It was announced that Mr. B. C. Sen and Rai Lakshisanakar Misra Bahadur had expressed a wish to withdraw from the Society.

The President announced that Mr. P. R. Bramley, Babu Gopal Chandra Chatterjee and Mr. Mahammad Rafiq elected members of the Society on 3rd February, 1st June and 6th July 1904, respectively, not having paid their entrance fees, their election have become null and void under Rule 9, and that the election of Rev. S. Endle has been cancelled at his own request.

The General Secretary exhibited two photographs of the stone image of Buddha forwarded by the Commissioner of the Chittagong Division, and read the following note on it prepared by Pandit Satis Chandra Vidyabhusana :—

This image represents Buddha sitting on *Padmāsana* or lotus-seat which is defined as a particular posture in religious meditation in which the devotee sits with the thighs crossed, with one hand resting on the left thigh, the other held up with the thumb bent towards the heart, and the eyes directed towards the tip of the nose.

The image, which is a specimen of neither the Indo-Greek, Indo-Scythian or Dravidian sculpture, is the representation of an Arakanese Buddha which differs a little from the Buddhas of Burma proper. The image must have been prepared about the year 1560 A.D., when Chittagong was completely conquered by the Arakanese and was made a province of Arakan. Chittagong remained a province of Arakan up to 1666 A.D., when it was

snatched away by the Mahomedans. The town was stormed and the Arakanese settlers driven out of Chittagong. After the annexation of Arakan by the King of Burma, a large number of fresh Arakanese Buddhists immigrated into Chittagong at the close of the 18th Century A.D. The Maghs that now live in Chittagong are the descendants of these last immigrants. They know nothing of this image and there is no local tradition about it. It was in fact prepared before their arrival in Chittagong, and before the storming of the city by the Mahomedans.

According to the Burmese legends, in the reign of King Thirimegha in the middle of the 14th Century A.D., a canine tooth of Buddha was brought to Tsitkain. If Tsitkain is identified with Chittagong (about which there is of course a grave doubt), then in some future time we may expect also to find in Chittagong the golden casket in which the precious tooth-relic was placed.

Pandit Satis Chandra Vidyabhusana exhibited images of five of the sixteen famous Buddhist Mahasthviras recovered from Tibet.

MARCH, 1905.

The Monthly General Meeting of the Society was held on Wednesday, the 1st March, 1905, at 9-15 p.m.

C. W. McMINN, Esq., I.C.S. (retired,) Vice-President, in the chair.

The following members were present:—

Mr. N. Annandale, Mr. R. Burn, Babu Monmohan Chakravarti, Mr. B L Chauduri, Rai Sarat Chandra Das Bahadur, Mr. J. N. Das Gupta, Mr. D. Hooper, Dr. W. C. Hossack, Dr. H. H. Mann, Capt. J. H. D. Megaw, Captain L. Rogers, I.M.S., Pandit Yogesa Chandra Sastree, Babu Jogendra Nath Vidyabhusan, Pandit Satis Chandra Vidyabhusana, Mr. E. Vredenburg.

Visitors:—Mr. D. MacDonal, Mr. S. C. Sanial, Babu Brajendra Kumar Seal.

The minutes of the last Meeting were read and confirmed.

Eleven presentations were announced.

Rev. A. Willifer Young, Mr. W. B. Brown, Miss Cornelia Sorabjee, Babu Sasi Bhushan Bose, Mr. S. C. Sanial, and Babu Muralidhar Banerji, were balloted for and elected Ordinary Members.

It was announced that Dr. A. E. Caddy had expressed a wish to withdraw from the Society.

The Chairman announced that a second Elliott gold medal had been awarded to Babu Surendra Nath Maitra, M.A., for his essay entitled "On the Experimental Determination of the Electro-chemical equivalent of Nickel," submitted in competition for the Elliott Prize for Scientific Research for 1904, under Rule G of notification in the *Calcutta Gazette* of the 28th December, 1892.

The General Secretary read the following report of the Subcommittee appointed by Council to consider the style, paper and design of the Society's publications held on Wednesday, the 22nd February, 1905, at 8 A.M.

Resolved—

1. The Committee is of opinion that by the establishment of a quarto publication for the larger memoirs, the residue of small papers can be conveniently published in a single Journal styled the "Journal and Proceedings" of the Society issued on the lines of the Journal of the Royal Asiatic Society.

2. That the paper most appropriate for use in all the Society's publications is that employed for the Quarterly Journal of the Geological Society, in which photo-blocks can be printed with

fair clearness on a paper which is not inconveniently thick or smooth.

3. The Committee after seeing representatives of Messrs. Thacker, Spink & Co., and the Baptist Mission Press, recommend the following estimate submitted by the latter:—

Paper A.	Rs.	3-8	per page	for	8vo.
„ C.	„	6-4	„	„	4to.

4. The Committee also recommend that the new paper and, as far as possible, the types should be employed for works hereafter to be published in the Bibliotheca Indica.

The question of improving the vernacular types used in this publication must be postponed, nothing better being available in India, but the Committee has reason to believe that improvements will shortly be effected.

5. The present Report is submitted to this Meeting of Council in order that if it is adopted the new arrangements may apply to the publications of 1905. The preparation of a design for the new printed cover is still under consideration, but can be easily completed before any new publications are issued.

6. The Committee were further of opinion that select advertisements should appear in “Journal and Proceedings,” as in the J.R.A.S., and that the arrangements for this purpose should be entrusted to Messrs. Thacker, Spink & Co., whose representative informed the Committee that they were ready to undertake the work and that the income to be derived from this source would probably recoup the Society for a very large proportion of the cost of the “Journal and Proceedings.” It is suggested that these advertisements besides being a source of income would be of considerable practical use to members.

7. To facilitate the system of publishing papers, and to avoid the delay often caused by reference to Council, in accordance with the standing regulations, the Committee recommend that all arrangements with regard to the publication of papers be made by a Standing Publication Committee, composed of the Editors of the Journal and Proceedings, and that this Committee be given the powers now resting with Council, except when the publication of a paper involves expenditure beyond the sanctioned grant. In such a case, the sanction of Council would be necessary before the printing of a paper. This change of regulation can be introduced, on resolution of the Council, by a single change in the wording of the standing regulations printed in pp. 25 and 26 of the Rules, &c. of the Society.

8. The Committee recommend the restoration of the old practice of publishing in the Proceedings from their minutes, the list of members at each Meeting of Council as well as extracts when they appear to be of general interest. Such extracts might be first read at the General Meeting following the Meeting of Council.

APRIL, 1905.

The Monthly General Meeting of the Society was held on Wednesday, the 5th April, 1905, at 9-15 P.M.

His Honour SIR A. H. L. FRASER, M.A., LL.D., K.C.S.I., President, in the chair.

The following members were present:—

Mr. N. Annandale, Mr. R. P. Ashton, Major W. J. Buchanan, I.M.S., Major W. J. Bythell, I.A., Babu Monmohan Chakravarti, Mr. B. L. Chaudhuri, Rai Sarat Chandra Das Bahadur, Mr. Hari Nath De, Mr. L. L. Fermor, Rev. E. Francotte, S.J., Mr. N. L. Hallward, Mr. H. H. Hayden, Mr. D. Hooper, Dr. W. O. Hossack, Mr. J. Macfarlane, Mr. C. W. McMinn, Kumar Satindradeb Rai, Captain L. Rogers, I.M.S., Pandit Yogesa Chandra Sastree, Mahamahopadhyaya Haraprasad Shastri, Mr. H. E. Stapleton, Pandit Satis Chandra Vidyabhusana.

Visitors:—Mr. A. J. F. Blair, Mr. S. H. Browne, Mr. A. G. Fraser, Mr. E. H. Pascoe, Kumar Kshitendradeb Rai Mahasai, Kumar Manindradeb Rai Mahasai.

The minutes of the last meeting were read and confirmed.

Eighty-three presentations were announced.

Mr. J. M. Dunnett was balloted for and elected an Ordinary Member of the Society.

It was announced that Lt.-Col. H. T. S. Ramsden, I.A., had 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—

Mr. N. Annandale.
Mr. W. K. Dods.
The Hon. Mr. A. Earle.
Mr. T. H. Holland.
Mr. H. E. Kempthorne.
The Hon. Mr. Justice Asutosh Mukhopadhyaya.
Captain L. Rogers.
Dr. E. D. Ross.
Mahamahopadhyaya Haraprasad Shastri.

Library Committee—

Mr. Harinath De,
Mr. H. H. Hayden.

Mr. T. H. D. LaTouche.
Mr. C. W. McMinn.
The Hon. Mr. Justice Asutosh Mukhopadhyaya.
Dr. E. D. Ross.
Mahamahopadhyaya Haraprasad Shastri.
Mr. E. Thornton.

Philological Committee—

Babu Muralidhar Banerjee.
Babu Monmohan Chakravarti.
Mr. Harinath De.
Mr. E. A. Gait.
The Hon. Mr. Justice Asutosh Mukhopadhyaya.
The Hon. Mr. Justice F. E. Pargiter.
Dr. E. D. Ross.
Pandit Satyavrata Samasrami.
Pandit Yogesa Chandra Sastree.
Mahamahopadhyaya Haraprasad Shastri.
Mahamahopadhyaya Chandra Kanta Tarkalankara.
Dr. G. Thibaut.
Babu Nagendra Nath Vasu.
Mr. A. Venis.
Pandit Satis Chandra Vidyabhusana.

The proposed revision in Rules 5 and 7 of the Society's Rules, of which intimation had been given by circular to all resident members in accordance with Rule 64A, were brought up for discussion.

Mr. D. Hooper exhibited some peculiar knives from Nepal and Coorg.

The following papers were read:—

1. *Aniruddha Thera.*—A learned Pāli author of Southern India in the 12th Century A.D.—By PANDIT SATIS CHANDRA VIDYĀBHŪṢANA.
2. *The Colouring Principle of the flowers of Nyctanthes Arbor-tristis.*—By E. G. HILL, B.A.
3. *On some Forms of the Kris hilt, with special reference to the Kris tādjong of the Siamese Malay States. With exhibition of specimens and drawings.*—By N. ANNANDALE, B.A.

This paper will be published in the Memoirs.

4. *The Monasteries of Tibet.*—By RAI SARAT CHANDRA DAS BAHADUR, C.I.E.
5. *On the occurrence of the Fresh-water Worm Chestogaster in India, with notes on the habits of a species from Calcutta.*—By N. ANNANDALE, B.A.
6. *A letter from Mr. H. Beveridge to Babu Girindra Nath Dutt on his paper on the History of the Hutwa Raj.*

I am much obliged to you for the present of your History of the Hutwa Raj. I have read it with interest. The only point on

which I am capable of commenting is that relating to the time of Akbar and his father. At page 4 you speak of the last of the Lodi kings falling into the hands of Baber, the exact fact being that he was killed in battle, and the battle of "Baksar" a little lower down is a slip for the battle of Chausa (on the other side of the Ganges). Your note at pages 48 and 49 on the Hutwa Raj in the Ain Akbari should rather be the Hutwa Raj in the Ain and the Akbarnama, for the chief references to Kalyanpore and its Zemindar are in the Akbarnama. Blochmann's notes to which you refer are derived from the Akbarnama, not from the Ain. Kalyanpore is twice mentioned in the Akbarnama vol. III. One reference is at page 370 which is that mentioned by you, though I do not think the original Persian quite warrants the statement that the imperialists drove Masum K. Faroukhudi over Kalyanpore to Mahamedabad. The other reference is not mentioned by Blochmann, but is the more important of the two, for there Abul Fazl refers to Saran and the Zemindar of Kalyanpore.¹ It occurs at page 397, Vol. III, of the Bib. Ind. ed. of the Akbarnama, line three from top. After mentioning the borders of Saran on the preceding page (396) it says that a rebel named Nur Mahammed tried to take refuge with "the Zemindar of Kalyanpore" and did not succeed. This reference is in the 28th year of Akbar's reign corresponding to 1582 or 1583 and so you will see that your date of 1600 for Raja Kalyan Mall is too late by about 20 years. The Koda² or Konah mentioned in Jarrett II, 156, just before Kalyanpore is perhaps the Knadi of your page 5. By the by, Masum K. Faroukhudi was afterwards secretly murdered by Akbar's orders.

7. *Festivals, Customs and Folklore of Gilgit.*—By MUNSHI GHULAM MAHOMAD. *Communicated by the Anthropological Secretary.*

This paper will be published in the Memoirs.

¹ "I am indebted to the Asiatic Society's resident Moulvi for the following information from the Akbarnamah:—

"Noor Muhammad, the out-law. When Khani Azam Mirza Kook took post and reached the boundaries of Jaunpore, he received information that that out-law (Noor Muhammad) came from Bengal by the way of Tirhoot and made friendship with Khaja Abdul Gafoor Nagahbandi and disturbed the peace of the country and began to ravage the district of Saran, having settled at a distance of 24 miles from Tirhoot. Meanwhile the royal troops arrived at the bank of the Ganges and attempted to construct a bridge over it. Understanding this the enemy tried to take shelter under the samindar of Kalyanpur but in vain. He was arrested at Chelaran (Champanan)."

² There is no doubt that "Kodah (Gawa?)" of Jarrett is Knadi. Most of the names of the Porgs. in Saran mentioned by Abul Fazl have been misread by Jarrett. As for their correct reading cf. my notes on the Vernacular dialects of Saran in the Journal, of the Asiatic Society of Bengal, Part I, No. 3, of 1897, pp. 194-195.

G. N. DUTT.

MAY, 1905.

The Monthly General Meeting of the Society was held on Wednesday, the 3rd May, 1905, at 9-15 P.M.

PANDIT SATIS CHANDRA VIDYABHUŞAÑA, M.A., in the chair.

The following members were present:—

Dr. N. Annandale, Rai Sarat Chandra Das, Bahadur, Mr. L. L. Fermor, Mr. J. Macfarlane, Mr. F. C. Turner, Mr. E. Vredenburg.

Visitor:—Mr. G. de P. Colter.

The minutes of the last Meeting were read and confirmed.

Thirty-six presentations were announced.

Babu Kashi Prasad Saha, Babu Hemendra Prasad Ghosha, Dr. A. J. Ollenbach, Mr. H. G. Graves, Babu Dwarkanath Chakrabutti and Mr. T. W. Richardson were balloted for and elected Ordinary Members of the Society.

It was announced that Mr. A. Tocher had expressed a wish to withdraw from the Society.

The Chairman announced that Mr. H. E. Stapleton, Captain L. Rogers, I.M.S., Mr. H. H. Mann, Mr. D. Hooper and Mr. J. N. Das Gupta had been appointed to serve on the Library Committee during the present year.

The following papers were read:—

1. *The Emperor Bābar*.—By H. BEVERIDGE, I.C.S. (retired.)
2. *Contributions to Oriental Herpetology III—Notes on the Oriental Lizards in the Indian Museum, with a List of the Species recorded from British India and Ceylon. Part 2*.—By NELSON ANNANDALE, B.A., D.Sc.
3. *Tibet, a dependency of Mongolia (1643-1716 A.D.)*.—By RAI SARAT CHANDRA DAS, BAHADUR, C.I.E.
4. *SARVAJÑA-MITRA—A Tantrika Buddhist author of Kāśmīra in the 8th Century A.D.*.—By PANDIT SATIS CHANDRA VIDYABHUŞAÑA, M.A.
5. *The Similarity of the Tibetan Alphabet to the Kashgar Brahmi Alphabet*.—By REV. A. H. FRANCKE.
6. *A complete All-word Index to the Inscriptions of Asoka*.—By GANGA MOHAN LASKAR, M.A. Communicated by the Philological Secretary.

The last two papers will be published in the Memoirs.

7. *Materials for a Flora of the Malayan Peninsula, No. 16.*—By SIR GEORGE KING, K.C.I.E., LL.D., F.R.S., late Superintendent of the Royal Botanic Garden, Calcutta, and J. SYKES GAMBLE, C.I.E., M.A., F.R.S., late of the Indian Forest Department.

(Abstract.)

The present contribution to these materials contains the account of the genus *Psychotria* required to conclude the joint-account by the authors of the natural order *Rubiaceæ*, commenced in part 14 and continued in part 15 of this series. This account of *Psychotria* comprises descriptions of 26 completely represented and 3 imperfectly known species; of these the following 11 species,—*Psychotria Kunstleri* King & Gamble, *P. Scortechinii* King & Gamble, *P. pilulifera* King & Gamble, *P. Ridleyi* King & Gamble, *P. multicapitata* King & Gamble, *P. Birchiana* King & Gamble, *P. fulvoidea* King & Gamble, *P. Curtisii* King & Gamble, *P. Wrayi* King & Gamble, *P. inæqualis* King & Gamble, and *P. condensa* King & Gamble, are new to science.

In addition, this fasciculus contains accounts, for which the authors are jointly responsible, of the three following natural orders: *Campanulacææ*, 4 genera and 6 species, two of the species—*Pentaphragma Scortechinii* King & Gamble and *P. Ridleyi* King & Gamble,—being new; *Vacciniacææ*, 3 genera and 12 species, 5 of the species—*Pentapterygiium Scortechinii* King & Gamble, and *Vaccinium Scortechinii* King & Gamble, *V. glabrescens* King & Gamble, *V. viscifolium* King & Gamble and *V. Kunstleri* King & Gamble,—being new; and *Ericacææ*, 5 genera and 17 species, 1 genus—*Pernettyopsis* King & Gamble,—and 7 species—*Diplycosia erythrina* King & Gamble, *Rhododendron Wrayi* King & Gamble, *R. pauciflorum* King & Gamble, *R. perakense* King & Gamble and *R. dubium* King & Gamble, with *Pernettyopsis malayana* King & Gamble, and *P. subylabra* King & Gamble—being new to science.

Two orders; *Valerianacææ*, 1 genus and 1 species; also *Compositææ*, 23 genera and 31 species, have been described by Sir G. King: four others; *Stylidææ*, 1 genus and 1 species; *Goodenovicææ*, 1 genus and 1 species; *Epacridææ*, 1 genus and 1 species; and *Plumbaginææ*, 2 genera and 2 species, have been described by Mr. Gamble. These six orders contain no novelties.

In addition to the foregoing, an account of the order *Monotropæææ*, 1 genus and species, has been provided by Lieut.-Col. D. Prain, Superintendent of the Royal Botanic Garden, Calcutta; while Mr. C. B. Clarke, F.R.S., formerly President of the Linnean Society, has prepared an account of the natural order *Gentianacæææ*, 6 genera and 8 species, 1 genus—*Microphium* C. B. Clarke,—and 3 species,—*Microphium pubescens* Clarke, *Cancora pentanthera* Clarke, and *Villarsia aurantiaca* Ridley—being new to science.

This paper will be issued as an extra number of the Society's *Journal*, Vol. LXXIII, Part II., 1904.

JUNE, 1905.

The Monthly General Meeting of the Society was held on Wednesday, the 7th June, 1905, at 9-15 P.M.

The Rev. E. Francotte, S.J., in the chair.

The following members were present :—

Dr. N. Annandale, Babu Dwarkanath Chakravarti, Mr. L. L. Fermor, Mr. D. Hooper, Dr. W. C. Hossack, Mr. J. Macfarlane, Mr. H. H. Mann, Major D. C. Phillott, I.A., Mr. R. R. Simpson, Mr. H. E. Stapleton, Pandit Satis Chandra Vidyabhusana, and Mr. E. Vredenburg.

Visitors :—The Rev. L. Delaunoy, S.J., Mr. J. M. Maclaren and Mr. E. Vieux.

The minutes of the last meeting were read and confirmed.

Twenty-five presentations were announced.

Pandit Nava Kanta Kavibhushan was balloted for and elected an Ordinary Member of the Society.

It was announced that the Hon. Mr. Justice J. G. Woodroffe, Mr. C. R. Marriott, and Captain Stuart Godfrey, I.A., had expressed a wish to withdraw from the Society.

The General Secretary reported the death of Mr. H. W. Peal, an Ordinary Member of the Society.

The proposed revision in Rules 5 and 7 of the Society's Rules, 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. Five such papers were filled in, and with the 106 returned by members, were scrutinized, the Chairman appointing Messrs. H. E. Stapleton and L. L. Fermor to be Scrutineers. The Scrutineers reported as follows :—

For	...	...	...	104
Against	...	...	...	7

RULE 5.

PRESENT RULE.

Candidates for Ordinary Membership shall be proposed by one, and seconded by another, Ordinary Member. The name of the candidate, his proposer and seconder, shall be laid before a Meeting of the Council, and shall be read at the two Ordinary General Meetings of the Society which next succeed such Meeting of the Council, and during the interval shall be suspended in the Society's Meeting-room. The candidate shall be ballotted for at the *second* of such Ordinary General Meetings.

PROPOSED RULE.

Candidates for Ordinary Membership shall be proposed by one, and seconded by another, Ordinary Member. The name of the candidate, his proposer and seconder, shall be laid before a Meeting of the Council, and if approved, shall be recommended for election by ballot at the next Ordinary General Meeting of the Society. The names of candidates recommended by the Council for election shall be communicated to the Resident Members of the Society, with the usual notice of the General Meeting, and in case any five Ordinary Members consider it desirable, they will be at liberty to demand that the candidates' certificates be suspended in the Society's Meeting-room until the next following General Meeting, when the candidate shall be ballotted for. Any such demand for a postponement of election made under this rule must be made in writing, signed by at least five Ordinary Members, and presented at the Ordinary General Meeting before the proposed election takes place.

RULE 7.

PRESENT RULE.

Should there be no meeting during the Recess months of September and October, the Council shall be empowered to elect candidates for ordinary

PROPOSED RULE.

Should there be no meeting during the Recess months of September and October, the Council shall be empowered to elect candidates for Ordinary

Membership, who shall have been duly proposed and seconded at the General Meeting of the Society in August, or whose names may be received as candidates during the Recess. Such candidates shall be balloted for at the Meeting of the Council next succeeding that at which their names and those of their proposers and seconders shall have been laid before the Council, and during the interval between the two meetings these names shall be suspended in the Society's Meeting-room, as provided in Rule 5; and it shall be necessary for the due election of such candidates that not less than two-thirds of the Members of Council present at the meeting shall vote in their favour. Such elections shall be reported and confirmed at the first General Meeting of the Society after the Recess.

Membership whose names may be received as candidates during the Recess. Such candidates shall be balloted for at the Meeting of the Council next succeeding that at which their names and those of their proposers and seconders shall have been laid before the Council; and during the interval between the two meetings these names shall be suspended in the Society's Meeting-room. It shall be necessary for the due election of such candidates that not less than two-thirds of the Members of Council present at the meeting shall vote in their favour. Such elections shall be reported and confirmed at the first General Meeting of the Society after the Recess.

The following papers were read :—

1. *An Analysis of the Lankāvatāra Sūtra.*—By PROF. SATIS CHANDRA VIDYĀRĪHĪṢAṆA, M.A.

2. *Note on a Rock Shrine in Lower Siam.*—By N. ANNANDALE, B.A., D.Sc.

The paper will be published in the Memoirs.

3. *Religion and Customs of the Uraons or Oraons.*—By REV. FATHER DEHON, S.J. Communicated by MR. E. A. GAIT, I.C.S.

The paper will be published in the Memoirs.

4. *Tibet under her Last Kings (1434-1642 A.D.).*—By RAI SARAT CHANDRA DAS, BAHADUR, C.I.E.

5. *Note on a Decomposition Product of a Peculiar Variety of Bundelkhand Gneiss.*—By C. A. SILBERRAD, B.A., B.Sc., I.C.S.

JULY, 1905.

The Monthly General Meeting of the Society was held on Wednesday, the 5th July, 1905, at 9-15 P.M.

HIS HONOUR SIR A. H. L. FRASER, M.A., LL.D., K.C.S.I., President, in the Chair.

The following members were present :—

Dr. N. Annandale, Rai Sarat Chandra Das, Bahadur, C.I.E., Mr. L. L. Fermor, Mr. D. Hooper, Mr. K. N. Knox, Mr. J. Macfarlane, Dr. M. M. Masoom, Major F. P. Maynard, I.M.S., The Hon. Mr. A. Pedler, Major D. C. Phillott, I.A., Captain L. Rogers, I.M.S., Mr. S. C. Sanial, Mahamahopadhyaya Haraprasad Shastri, Mr. R. R. Simpson, Mr. G. H. Tipper, Pandit Satis Chandra Vidyābhūṣaṇa, Mr. E. Vredenburg, The Rev. A. W. Young.

Visitors :—Mr. Hallowes, Capt W. B. Rennie, I.A.

The minutes of the last meeting were read and confirmed.

Forty presentations were announced.

It was announced that Mr. L. Morshead had expressed a wish to withdraw from the Society.

The General Secretary reported the death of Raja Jayakrishna Das, Bahadur, an Ordinary Member, and Dr. W. T. Blanford, F.R.S., an Honorary Member of the Society.

Read abstracts from programmes from the following Congresses and Exhibition :—

1. From Congrès International d'Expansion Economique Mondiale, 1905.

An International Congress of World-wide Economic Expansion (Congrès International d'Expansion Economique Mondiale) is to be held under the auspices of the Government of Belgium at Mons in September next (1) subscribe, (2) draw up a report, (3) send a delegate. The organisers suggest that the Society would be particularly interested in the section which relates to the following question :—

Which are the best ways of booking observations in uncivilised regions in order to obtain scientific notions on the native, social life, and manners and customs, and raise them to a higher civilization ?

2. From Congrès International pour l'étude de la radiologie et de l'ionisation, Liege, 1905.

An International Congress for the Study of Radiology and Ionisation is to be held under the auspices of the Government of

Belgium at Liège in September next, in which the Society is invited to participate.

3. From Indian Industrial and Agricultural Exhibition, Benares, 1905.

A prospectus has been received of the Indian Industrial and Agricultural Exhibition to be held at Benares in connection with the next Indian National Congress.

The President presented the Elliott gold medals and Rs. 75 in cash to each of the following gentlemen for their essays submitted in competition for the Elliott Prize for Scientific Research during 1904 :—

1. Babu Sarasi Lal Sarkar—for his essay entitled “On the crystalline properties of a potassium copper ferro cyanide compound,” Parts I & II.

2. Babu Surendra Nath Maitra—for his essay entitled “On the Experimental Determination of the Electro-chemical equivalent of nickel.” (With Diagrams.)

The President announced :—

1. That the Council had appointed Pandit Satis Chandra Vidyābhūṣaṇa as a member of the Council.

2. That Dr. Annandale had been appointed to serve on the Library Committee and Major D. C. Phillott, I.A., had been re-elected a member of the Philological Committee during the year.

The General Secretary reported the presentation of nine gold and three silver coins from the Bombay Branch of the Royal Asiatic Society forwarded with their letter dated 15th June, 1905.

Mr. J. N. Das, proposed by Mahamahopadhyaya Haraprasad Shastri, seconded by Pandit Yogesa Chandra Sastree ; Mr. Edgar de Montford Humphries, I.C.S., proposed by Mr. R. Burn, seconded by Mr. J. Macfarlane ; Babu Amulyacharan Ghose Vidyabhushan, proposed by Pandit Satis Chandra Vidyābhūṣaṇa, seconded by Mr. J. Macfarlane ; Mr. Hem Chandra Goswami, proposed by Pandit Yogesa Chandra Sastree, seconded by Mr. J. Macfarlane ; Mr. J. A. Cunningham, B.A., proposed by Mr. F. Turner, seconded by Mr. G. W. Küchler ; Mr. Jain Vaidya, proposed by Pandit Satis Chandra Vidyābhūṣaṇa, seconded by Mr. J. Macfarlane ; Pandit Rajendra Nath Vidyabhushan, proposed by Mahamahopadhyaya Haraprasad Shastri, seconded by Babu Muralidhar Banerjee ; Babu Vanamali Chakravarti, proposed by Mahamahopadhyaya Haraprasad Shastri, seconded by Babu Muralidhar Banerjee ; and Pandit Pramatha Nath Tarkabhushan, proposed by Babu Muralidhar Banerjee, seconded by Mahamahopadhyaya Haraprasad Shastri, were balloted for and elected Ordinary Members.

The Philological Secretary exhibited a Tibetan Scroll forwarded by the Hon'ble Sir A. T. Arundel, and Pandit Satis Chandra Vidyābhūṣaṇa read a note on it.

The note will be published in the *Memoirs*.

The following papers were read :—

1. *The Catholic Mission in Nepal and the Nepalese Authorities (18th century).*—By FATHER FELIX. Communicated by the *Philological Secretary*.

The paper will not be published by the Society.

2. *Four new Barnacles from the neighbourhood of Java, with Records of Indian Pedunculate Forms.*—By N. ANNANDALE, B.A., D.Sc., *Deputy Superintendent, Indian Museum*.

The paper will be published in the *Memoirs*.

3. *Additions to the collection of Oriental Snakes in the Indian Museum, Part II.—Specimens from the Andamans and Nicobars.*—By N. ANNANDALE, B.A., D.Sc., *Deputy Superintendent, Indian Museum*.

4. *The Tibetan Version of the Pramunasamuccaya—the First Indian work on Logic proper—brought from Tibet by the late Tibet Mission.*—By SATIS CHANDRA VIDYĀRHŪSAṆA, M.A.

The paper will be published in the *Journal and Proceedings* for August, 1905.

5. *Materials for a Flora of the Malayan Peninsula, No. 17.*—By SIR GEORGE KING, K.C.I.E., LL.D., F.R.S., *late Superintendent of the Royal Botanic Garden, Calcutta, and J. S. GAMBLE, C.I.E., F.R.S., late of the Indian Forest Department.*

(Abstract.)

This contribution commences with Natural Order *Myrsinæ* and is continued by *Sapotacæ*, *Ebenacæ*, *Styracæ* and *Oleacæ*. The draft of *Ebenacæ* was prepared by Sir George King, that of the other Orders by Mr. J. S. Gamble; but the new species are given under their joint names.

In the Natural Order *Myrsinæ* 7 genera are described with 80 species, of which the large genus *Ardisia* furnishes 47. The new species are 36 in number, viz., *Mæsa impressinervis* and *pahangi-ana*; *Myrsine perakensis* and *Wrayi*; *Embelia Scortechinii*, *angulosa*, *Ridleyi*, and *macrocarpa*; *Labisia paucifolia* and *longistyla*; *Ardisia chrysophyllifolia*, *solanooides*, *fulva*, *lankuwiensis*, *labisiæfolia*, *montana*, *sinuata*, *platyclada*, *Kunstleri*, *Scortechinii*, *oblongifolia*, *tetrasepala*, *biflora*, *tahanica*, *Wrayi*, *minor*, *perakensis*, *Meziana*, *Ridleyi*, *rosea*, *longipedunculata*, *Maingayi*, *thesefolia*, and *bambusetorum*; and *Antistrophe caudata* and *Curtisii*. A Tenasserim novelty has also been described *Embelia Gallatlyi*. The working out of the Malay plants of this difficult Order has been rendered easier owing to the recent Monograph of the Order by Herr Carl Mez, in Engler's *Pflanzenreich*.

In the interesting and important Natural Order *Sapotacæ* there are 8 genera with 49 species, of which 25 are new, viz., *Sideroxylon Derryanum*; *Isouandra perakensis* and *rufa*; *Paysona longepedicellata* (Brace), *Havilandii*, *sessilis*, *obtusifolia* and *selangorica*; *Bassia aristulata*, *Kingiana* (Brace), *Kunstleri* (Brace), *penicellata*, *Curtisii*, *laurifolia*, *rupicola*, *perakensis*, *Braccana*, *longistyla*, *cuprea*, *penangiana*, and *erythrophylla*; *Palauquium Ridleyi*,

microphyllum, *Herveyi* and *stellatum*. An Andaman Islands species has also been included, *Mimusops andamanensis*. Some of the species, it will be noticed, bear the name given in the Calcutta Herbarium by Mr. L. R. Brace, formerly Curator; but he merely gave names without descriptions.

In the almost equally important Natural Order *Ebenaceæ* there are two genera with 42 species, of which 2½ are new, viz., *Maba Hierniana*, *venosa*, *olivacea*, *Clarkeana* and *perakensis*; *Diospyros Wrayi*, *sub-rhomboides*, *dumosa*, *Scortechinii*, *Styraciformis*, *tristis*, *pauciflora*, *ellipsoidea*, *Wallichii*, *toposioides*, *brachiata*, *Kunstleri*, *nutans*, *reflexa*, *penangiana*, *rufa*, *areolata*, *Curtisii*, and *glomerulata*.

The Natural Order *Styracææ* gives two genera and 28 species, of which 25 belong to *Symplocos*. The new species are 8 in number, viz., *Symplocos fulvosa*, *pulverulenta*, *monticola*, *Ridleyi*, *perakensis*, *Brandiana*, *penangiana*, *Scortechinii*. As was the case with *Myrsinææ*, so in *Styracææ* also, the work has been facilitated by the recently published Monograph by Herr Brand in Engler's *Pflanzenreich*.

In the Natural Order *Oleaceææ* there are 5 genera with 22 species, of which 9 are new. These are: *Jasminum Wrayi*, *Curtisii*, *longipetalum* and *Scortechinii*; *Osmuntum Scortechinii*; *Linociera paludosa* and *caudata*; and *Olea platycarpa* and *ardisioides*.

In this part, therefore, are described 5 Natural Orders with 24 genera and 221 species. The number of species new to science are 115, and two new species have been also described from regions adjacent to that to which the work refers.

The paper will be published in full as an Extra Number of the *Journal and Proceedings*.

AUGUST, 1905.

The Monthly General Meeting of the Society was held on Wednesday, the 2nd August, 1905, at 9-15 p.m.

The Rev. E. FRANCOU, S.J., in the chair.

The following members were present:—

Mr. J. Bathgate, Mr. L. L. Fermor, Babu Amulyacharan Ghosh Vidyabhushan, Mr. H. G. Graves, Mr. T. H. Holland, Mr. D. Hooper, Pandit Navakanta Kavibhushana, Mr. J. Macfarlane, Mr. H. H. Mann, Dr. M. M. Masoom, Major F. P. Maynard, I.M.S., Mr. G. E. Pilgrim, Captain L. Rogers, I.M.S., Dr. E. D. Ross, Pandit Yogesa Chandra Sastree, Mahamahopadhyaya Haraprasad Shastri, Mr. R. R. Simpson, Mr. H. E. Stapleton, Pandit Pramatha Nath Tarkabhushan, Mr. G. H. Tipper, Pandit Vanamali Vedanta Tirtha, Pandit Jogendra Nath Vidyabhushan, Pandit Rajendra Nath Vidyabhushan, Pandit Satis Chandra Vidyabhushan, the Rev. A. W. Young.

Visitors:—Babu Sarat Kumar Das, Mr. W. R. LeQuesne.

The minutes of the last meeting were read and confirmed.

Fifty presentations were announced.

It was announced that Major E. H. Brown, I.M.S., had expressed a wish to withdraw from the Society.

The Chairman announced that Mr. H. E. Stapleton had been appointed to officiate as Anthropological Secretary of the Society during the absence of Dr. N. Annandale.

The Chairman also announced that the following gentlemen being largely in arrears of subscription had been declared defaulters and that their names would be posted up in accordance with Rule 38.

Mr. R. G. Black.

Babu Ramani Mohan Mallick.

Babu Jaladhi Ch. Mukerjee.

With reference to the resolution of the Council regarding the rejection of certain books from the Society's library published in the Society's Proceedings for June, 1904, the Chairman announced that the Council had resolved that the Library Committee should settle the prices of books with authority to offer Government publications to Government.

The Chairman presented to Rai Sarat Chandra Dass, Bahadur, C.I.E., a diploma from the Imperial Russian Archæological Society electing him a Foreign Corresponding Member.

Sri Kripamaya Dev Anang Bhim Kesori Gajapati Maharaja, proposed by Mahamahopadhyaya Haraprasad Shastri, seconded by

Mr. J. Macfarlane; Lieut.-Col. C. P. Lukis, M.B., F.R.C.S., I.M.S. proposed by Captain L. Rogers, I.M.S., seconded by Captain J. W. Megaw, I.M.S.; Captain D. McCay, M.B., I.M.S., proposed by Captain L. Rogers, I.M.S., seconded by Captain J. W. Megaw, I.M.S.; Lieut. C. A. Gourlay, M.B., I.M.S., proposed by Captain L. Rogers, I.M.S., seconded by Captain, J. W. Megaw, I.M.S.; Captain J. J. Urwin, M.B., I.M.S., proposed by Captain L. Rogers, I.M.S., seconded by Captain J. W. Megaw, I.M.S.; Captain W. W. Clemesha, M.B., I.M.S., proposed by Captain L. Rogers, I.M.S., seconded by Captain J. W. Megaw, I.M.S.; were balloted for and elected Ordinary Members.

Owing to non-receipt of the MS. of the paper entitled "The Tibetan version of the Pramāṇasamuccaya," by Prof. Satis Chandra Vidyābhūṣaṇa, read at the July General Meeting, the paper is not published in the *Journal and Proceedings* for August 1905.

The following papers were read :—

1. *A Tibetan Chart containing the charm of Vajrabhairava.*—
By PROF. SATIS CHANDRA VIDYABHUSHAN, M.A.

The paper will be published in the *Memoirs*.

2. *History of Nyāyaśāstra from Japanese sources.*—By MAHA-MAHOPADHYAYA HARAPRASAD SHASTRI, M.A.

3. *Notes concerning the people of Mungeli Tehsil, Bilaspore District.*—By REV. E. M. GORDON. Communicated by the *Anthropological Secretary*.

4. *Amulets as Agents in the Prevention of Disease in Bengal.*—Communicated by MR. A. N. MOBERLY, I.C.S., Superintendent of *Ethnography, Bengal*.

The paper will be published in the *Memoirs*.

5. *A Short History of the house of Phagmodu, which ruled over Tibet on the decline of Sakya for upwards of a century till 1432, A.D.*—By RAI SARAT CHANDRA DAS, BAHADUR, C.I.E.

6. *Additions to the Collection of Oriental Snakes in the Indian Museum. Part 3.*—By N. ANNANDALE, B.A., D.Sc.

7. *The Kantabudiyas of Cuttack.*—By JAMINI MOHAN DAS. Communicated by the *Anthropological Secretary*.

8. *The Age of Jimuta Vahana.*—By PANDIT PRAMATHA NATH TARKABHUSHAN.

The paper will be published in the *Bibliotheca Indica*.

9. *Sal-Ammoniac: a Study in Primitive Chemistry.*—By H. E. STAPLETON, B.A., B.Sc.

The paper will be published in the *Memoirs*.

10. *Alchemical Equipment in the Eleventh Century, A.D.*—By H. E. STAPLETON and R. F. AZO.

The paper will be published in the *Memoirs*.

11. *Note on the Bhotias of Almora and British Garhwal.*—By C. A. SHERRING, M.A., I.C.S. Communicated by MR. R. BURN, I.C.S.

The paper will be published in the *Memoirs*.

NOVEMBER, 1905.

The Monthly General Meeting of the Society was held on Wednesday, the 1st November 1905, at 9-15 P.M.

The Hon. MR. JUSTICE ASUTOSH MUKHAPADHYAYA, M.A., D.L., F.R.S.E., Vice-President, in the chair.

The following members were present :—

Dr. N Annandale, Mr. I. H. Burkill, Babu Manmohan Chakravarti, Mr. B. L. Chaudhuri, Mr. L. L. Fermor, The Rev. E. Francotte, S.J., Mr. H. G. Graves, Mr. D. Hooper, Mr. T. H. D. La Touche, Mr. J. Macfarlane, Major D. C. Phillott, I.A., Mr. G. E. Pilgrim, Major L. Rogers, I.M.S., Mahamahapadhyaya Haraprasad Shastri, Mr. R. R. Simpson, Pandit Pramatha Nath Tarkabhushan, Pandit Vanamali Vedantatirtha, Pandit Rajendra Nath Vidyābhūṣaṇa Pandit Satis Chandra Vidyābhūṣaṇa.

Visitor :—Mr. G. de P. Cotter.

The minutes of the last meeting were read and confirmed.

One hundred and sixty-eight presentations were announced.

The Chairman announced :—

1. That the Council had appointed Mr. H. E. Stapleton as a member of the Council in the place of Mr. R. O. Lees, resigned.
2. That Dr. N. Annandale having returned to Calcutta had taken over charge of the duties of Anthropological Secretary from Mr. Stapleton.
3. That Mr. L. L. Fermor had been elected to serve on the Library Committee during the year.

The Chairman also announced that in accordance with Rule 38 of the Society's Rules, the names of Mr. R. G. Black, Babu Ramani Mohan Mallick and Babu Jaladhi Chandra Mukerjee had been posted up as defaulting members since the last Meeting and were removed from the Members List.

The Chairman also announced the following resolution of the Council regarding the submission of communications for publication in the Society's "*Journal and Proceedings*" and "*Memoirs.*"

"The attention of authors is drawn to Rule I of Regulations regarding the submission of communications for publication. No alteration or addition necessitating any considerable change of type may be made in proofs. Should any such alteration or addition be necessary, it must be added in a foot-note duly dated and initialed.

Mr. L. S. O'Malley, I.C.S., proposed by the Hon. Mr. E. A. Gait, seconded by Mr. J. Macfarlane; Mr. A. M. T. Jackson, I.C.S., proposed by the Hon. Mr. H. H. Risley, seconded by Mr. J. Macfarlane; were balloted for and elected Ordinary Members.

Dr. N. Annandale exhibited living specimens of the "Rains Insect" (*Trombidium grandissimum*).

The Anthropological Secretary exhibited weighing-beams of the "bismar" type from different parts of India.

The following papers were read :—

1. *Vidyāpa'i Thākur*.—By G. A. GRIERSON, C.I.E., I.C.S.
2. *Some remarks on the Geology of the Gangetic Plain*.—By E. MOLONY, I.C.S.
3. *The Naftāsu-l-Mādsir*.—By H. BEVERIDGE, I.C.S. (retired).
4. *Notes on the Species, External Characters and Habits of the Dugong*.—By N. ANNANDALE, B.A., D.Sc.
5. *Helyotis sisaparensis, a hitherto undescribed Indian species*.—By CAPTAIN A. T. GAGE, I.M.S.
6. *Result of the examination of the Nyaya Sutras of Gautama*.—By MAHAMAHOPADHYAYA HARAPRASAD SHASTRI, M.A.

The paper will be published in the "Journal and Proceedings," Vol. I, No. 10.

7. *Materials for a Flora of the Malayan Peninsula. No. 18*.—By SIR GEORGE KING, K.C.I.E., LL.D., F.R.S., and J. S. GAMBLE, ESQ., C.I.E., M.A., F.R.S.

(Abstract.)

Owing to an unforeseen cause of delay, it has been found necessary to postpone the publication of the Natural Orders No 75 *Apocynaceæ*, No. 76 *Asclepiadaceæ* and No. 77 *Loganiaceæ* for a short while; consequently the present part, No. 18 of the "Materials for a Flora of the Malayan Peninsula," contains the orders which succeed, *viz.*, No. 79 *Hydrophyllaceæ* to No. 85 *Lentibulariaceæ* inclusive, together with No. 87 *Bignoniaceæ* and 88 *Pedalinceæ*. No. 78 *Gentianeæ* has already appeared in part 17, and No. 86 *Gesneraceæ* will have to come later on with the three orders above mentioned as having had to be postponed.

The whole of the work or six out of the nine orders now presented: *Convolvulaceæ*, *Solanaceæ*, *Scrophularineæ*, *Orobanchaceæ*, *Lentibulariaceæ*, and *Pedalinceæ* has been done by Lieutenant-Colonel Prain, I.M.S.; that on the *Boraginæ* by Sir G. King; and that on *Hydrophyllaceæ* and *Bignoniaceæ* by Mr. Gamble.

The nine orders include 53 genera and 150 species; some of the species are now described for the first time.

The paper will be published in full in an Extra No. of the "Journal and Proceedings" for 1905.

8. *Some notes on dates of Subandhee and Dingnag*.—By MAHAMAHOPADHYAYA HARAPRASAD SHASTRI, M.A.

The paper will be published in the "Journal and Proceedings," Vol. I, No. 10.

DECEMBER 1905.

The Monthly General Meeting of the Society was held on Wednesday, the 6th December 1905, at 9-15 p.m.

THE HON'BLE MR. JUSTICE ASUTOSH MUKHOPADHAYYA, M.A., D.L., Vice-President, in the chair.

The following members were present :—

Dr. N. Annandale, Babu Muralidhar Banerjee, Major W. J. Buchanan, I.M.S., Mr. I. H. Burkill, Babu Monmohan Chakravarti, Mr. B. L. Chaudhuri, Mr. W. K. Dods, Mr. L. L. Fermor, Rev. E. Francotte, S.J., Mr. H. G. Graves, Mr. T. H. Holland, Mr. D. Hooper, Rev. E. Lafont, S.J., Mr. W. A. Lee, Mr. J. Macfarlane, Mr. R. D. Mehta, Mr. J. R. Nicoll, Hon. Mr. Justice F. E. Pargiter, Mr. G. Pilgrim, Hon. Mr. H. H. Risley, Major L. Rogers, I.M.S., Dr. E. D. Ross, Mr. C. Saunders, Rai Ram Brahma Sanyal Bahadur, Pandit Yogesa Chandra Sastree, Mahamahopadhyaya Haraprasad Shastri, Babu Chandra Narain Singh, Mr. H. E. Stapleton, Pandit Vanamali Vedantatirtha, Babu Amulya Charan Vidyabhushan, Rev. A. W. Young.

Visitors :—Mr. and Mrs. P. Buckland, Mr. J. C. Brown, Mr. J. M. Burjojee, Mr. Douglas H. Campbell, Babu Asutosh Chatterjee, Captain Coldstream, R.E., Dr. J. N. Cook, Mr. and Mrs. J. D. Guise, Mr. Holmes, Mrs. Kilburn, Colonel Macrae, Captain and Mrs. Murray, Mr. O'Kinealy, Mr. H. Pedler, Mr. W. H. Pickering, Mr. Pearre, Mr. J. Wilson, Mr. R. W. Williamson, and others.

The minutes of the last meeting were read and confirmed.

Thirty-five presentations were announced.

The Chairman announced that Mr. I. H. Burkill had been re-elected a member of the Library Committee during the year.

The General Secretary read the following resolutions of the Sub-Committee appointed by Council to frame new rules for lending out manuscripts.

Loans to India.

Resolved :—

1. No manuscript shall be lent out to any member or non-member without the recommendation of one of the Philological Secretaries.

The loan of a manuscript or manuscripts to non-members must receive the sanction of Council in addition to the recommendation of the Philological Secretary.

In the case of non-members a security may be demanded.

2. As a rule the number of manuscripts which a member is

entitled to borrow shall be limited to two, but this number may be exceeded on the recommendation of the Philological Committee.

3. Every loan shall be reported to the Council.

4. All manuscripts lent must be returned at the end of three months.

5. With regard to Editors each individual case will be dealt with on its own merits.

The conditions under which each editor may borrow manuscripts will be forwarded with his letter of appointment.

Loans to Europe.

1. Loans cannot be made to private individuals but only to Corporate Bodies.

2. Loans to Corporate Bodies in Europe must receive the sanction of the Council.

3. The loan is to be made in the first instance for six months only, and renewals of loan for periods of three months only.

4. With each manuscript lent a form will be sent in duplicate, and three forms of application for renewal: one form will be retained by the borrower and the other duly signed by him returned to the Society.

5. That the Corporate Body to whom the loan is made will not be at liberty to allow the manuscript to leave their premises.

General Rules.

6. Certain manuscript of special importance or rarity shall be placed by the Philological Secretaries in consultation on a reserve list. These manuscripts will be marked in the Library Catalogue with asterisks, and, as a general rule, shall not be lent out of the Society's rooms.

7. It is, however, at the discretion of the Council, in very special cases, to sanction the loan of such manuscript.

Form of Acknowledgment.

We have to acknowledge receipt of.....No..... in good order and condition, to be held in trust for the Asiatic Society of Bengal and not to be removed from our premises.

We hereby undertake either to return the said manuscript by the.....(the date being six months from the date of presumable arrival) or to make a formal application for renewal of the loan by the.....(five months from the time of presumable arrival), and we further undertake to return the manuscript in the same order and condition securely packed by insured parcel post by the..... if previous sanction to retain it for a further period has not been received by the.....

Form of Application for Renewal.

We have acknowledged the receipt of.....No.....on the..... The manuscript has been used for..... months.

The manuscript is wanted for a further period of three months, and we shall be obliged by the Society's sanction of this renewal.

Mr. E. R. Watson, proposed by Mr. D. Hooper, seconded by Dr. N. Annandale; Mohamed Hossain Khan Midhut, proposed by Dr. E. D. Ross, seconded by Mr. J. Macfarlane; Mr. K. Marsden, proposed by Dr. E. D. Ross, seconded by Mr. J. Macfarlane; Mr. J. Wilson, proposed by Mr. T. H. Holland, seconded by Dr. E. D. Ross; were ballotted for and elected Ordinary Members

Dr. N. Annandale gave an exhibition illustrating the use of the blow-gun in Southern India and Malaya.

Mr. T. H. Holland gave a lecture on recent earthquakes in India (lantern demonstration).

The following papers were read :—

1. *Earth Eating and the Earth-eating habit in India.*—By D. HOOPER and H. H. MANN.

This paper will be published in the *Memoirs*.

2. *Formation of New Castes.*—By R. BURN, I.C.S.

3. *Notes on the Fauna of a Desert Tract in Southern India, I and II*—By N. ANNANDALE, D.Sc.

This paper will be published in the *Memoirs*.

4. *Ascaris halicoris* BAIRD.—By Dr. v. Linstow. Communicated by N. ANNANDALE.

5. *Animals in the Inscriptions of Piyadasi.*—By MONMOHAN CHAKRAVARTI.

This paper will be published in the *Memoirs*.

LIST OF MEMBERS
OF THE
ASIATIC SOCIETY OF BENGAL.
ON THE 31ST DECEMBER, 1904.

LIST OF OFFICERS AND MEMBERS OF COUNCIL
OF THE ASIATIC SOCIETY OF BENGAL
FOR THE YEAR 1904.

President :

The Hon'ble Mr. Justice F. E. Pargiter, B.A., I.C.S.

Vice-Presidents :

The Hon'ble Mr. Justice Asutosh Mukhopadhyaya,
M.A., D.L., F.R.S.E.
Lieut.-Col. D. Prain, M.A., M.B., LL.D.
T. H. Holland, Esq., F.G.S., F.R.S.

Secretary and Treasurer.

Honorary General Secretary : J. Macfarlane, Esq.
The Hon'ble Mr. Justice Asutosh Mukhopadhyaya,
M.A., D.L., F.R.S.E.

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Philological Secretary : T. Bloch, Esq., Ph.D.
Natural History Secretary : Captain L. Rogers,
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Anthropological Secretary : E. D. Ross, Esq., Ph.D.
Joint Philological Secretary : Mahimâhopādhyāya
Haraprasād Shastri, M.A.

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Kumar Ramessur Maliah.
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B. O. Lees, Esq.

LIST OF ORDINARY MEMBERS.

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R. = Resident. N.R. = Non-Resident. A. = Absent. N.S. = Non-Subscribing.  
L.M. = Life Member. F.M. = Foreign Member.

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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.		
1903 Feb. 4.	R.	Abdul Alim. <i>Calcutta.</i>
1894 Sept. 27.	N.R.	Abdul Wali, Maulavie. <i>Ranchi.</i>
1895 May 1.	R.	Abdus Salam, Maulavie, M.A. <i>Calcutta.</i>
1903 April 1.	N.R.	Abul Aâs, Maulavie Sayid, Rais and Zemindar. <i>Patna.</i>
1901 Aug. 7.	A.	Adams, Margaret. Baptist Zenana Mission. <i>Europe.</i>
1904 Sept. 28.	N.R.	Ahmad Hasain Khan, Munshi. <i>Jhelum.</i>
1888 April 4.	R.	Ahmud, Shams-ul-ulama Maulavie, Arabic Professor, Presidency College. <i>Calcutta.</i>
1888 Feb. 1.	R.	Alcock, Major Alfred William, M.B., LL.D., C.I.E., F.R.S. <i>Calcutta.</i>
1885 Mar. 4.	L.M.	Ali Bilgrami, Sayid, B.A., A.R.S.M., F.G.S. <i>Hy- derabad.</i>
1899 Jan. 4.	N.R.	Ali Hussain Khan, Nawab. <i>Bhopal.</i>
1903 Oct. 28.	R.	Allan, Dr. A. S., M.B. <i>Calcutta.</i>
1900 Aug. 1.	A.	Allen, C. G. H., I.C.S. <i>Europe.</i>
1874 June 3.	A.	Ameer Ali, M.A., C.I.E., Barrister-at-Law, <i>Europe.</i>
1893 Aug. 31.	A.	Anderson, Major A. R. S., B.A., M.B., I.M.S. <i>Europe.</i>
1884 Sept. 3.	A.	Anderson, J. A. <i>Europe.</i>
1904 Sept. 28.	R.	Annandale, Nelson, B.A. <i>Calcutta.</i>
1904 Jan. 6.	R.	Ashton, R. P. <i>Calcutta.</i>
1904 July 6.	N.R.	Aulad Hasan, Sayid. <i>Dacca.</i>
1870 Feb. 2.	L.M.	Baden-Powell, Baden Henry, M.A., C.I.E. <i>Europe.</i>

Date of Election.			
1901 Jan. 2.	A.	Badshah, K. J., B.A., I.C.S.	<i>Europe.</i>
1898 Nov. 2.	A.	Bailey, The Revd. Thomas Grahame, M.A., B.D., <i>Europe.</i>	
1891 Mar. 4.	N.R.	Baillie, D. C., I.C.S.	<i>Ghazipur.</i>
1898 Aug. 3.	N.R.	Bain, Lieut.-Col. D. S. E., I.M.S.	<i>Mercara.</i>
1891 April 1.	N.R.	Baker, Edward Charles Stuart.	<i>Dibrugarh.</i>
1900 Aug. 29.	R.	Baker, The Hon. Mr. E. N., C.S.I., I.C.S.	<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, Damudar 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>
1902 May 7.	R.	Bartlett, E. W. J.	<i>Calcutta.</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, Major A. H., I.A.	<i>Simla.</i>
1898 Nov. 2.	A.	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.	N.R.	Bodding, The Revd. P. O.	<i>Rampore Haut.</i>
1885 Mar. 4.	A.	Bolton, The Hon. Mr. Charles Walter, C.S.I., I.C.S.	<i>Europe.</i>
1895 July 3.	N.R.	Bonham-Carter, Norman, I.C.S.	<i>Saran.</i>
1890 July 2.	A.	Bonnerjee, Womes Chunder, Barrister-at-Law, Middle Temple.	<i>Europe.</i>
1897 June 2.	N.R.	Bose, Annada Prasad, M.A.	<i>Jalpaiguri.</i>
1895 Mar. 6.	R.	Bose, Jagadis Chandra, M.A., D.S.C., C.I.E., Bengal Education Service.	<i>Calcutta.</i>
1880 Nov. 3.	R.	Bose, Pramatha Nath, B.S.C., F.G.S.	<i>Calcutta.</i>
1895 April 3.	N.R.	Bourdillon, The Hon. Sir James Austin, K.C.I.E., C.S.I., I.C.S.	<i>Mysore.</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>
1901 Sept. 25.	R.	Buchanan, Major W. J., I.M.S.	<i>Calcutta.</i>
1887 May 4.	R.	Bural, Nobin Chand, Solicitor.	<i>Calcutta.</i>
1901 June 5.	R.	Burkill, I. H., M.A.	<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>Palwal.</i>
1904 Aug. 3.	R.	Bythell, Major, W. J., R.E.	<i>Calcutta.</i>
1898 Sept. 30.	R.	Cable, Ernest.	<i>Calcutta.</i>
1896 Jan. 8.	B.	Caddy, Dr. Arnold.	<i>Calcutta.</i>
1901 Jan. 2.	A.	Campbell, Duncan.	<i>Europe.</i>

Date of Election.		
1901 Mar. 6.	N.R.	Campbell, W. E. M., I.C.S. <i>Naini Tal.</i>
1895 July 3.	R.	Carlyle, The Hon. Mr. Robert Warrant, C.I.E., I.C.S. <i>Calcutta.</i>
1890 June 4.	R.	Chakravarti, Man Mohan, M.A., B.L. Deputy Magistrate. <i>Chinsurah.</i>
1901 June 5.	A.	Chapman, E. P., I.C.S. <i>Europe.</i>
1904 July 6.	N.R.	Charles, A. P., I.C.S. <i>Agra.</i>
1902 Aug. 27.	R.	Chaudhuri, A., Barrister-at-Law. <i>Calcutta.</i>
1893 Sept. 28.	R.	Chaudhuri, Banawari Lala, B.Sc., Edin. <i>Calcutta.</i>
1902 April 2.	R.	Chunder, Raj Chunder, Attorney-at-Law. <i>Calcutta.</i>
1880 Aug. 26.	F.M.	Clerk, General Malcolm G. <i>Europe.</i>
1903 Aug. 26.	R.	Copleston, The Right Revd. Dr. Reginald Stephen, D.D. <i>Lord Bishop of Calcutta.</i>
1898 June 1.	F.M.	Cordier, Dr. Palmyr. <i>Europe.</i>
1876 Mar. 1.	F.M.	Crawford, James, B.A., I.C.S. <i>Europe.</i>
1901 June 5.	R.	Crawford, Major D. G., I.M.S. <i>Chinsurah.</i>
1887 Aug. 25.	R.	Criper, William Risdon, F.C.S., F.I.C., A.R.S.M. <i>Calcutta.</i>
1895 July 3.	N.R.	Cumming, John Ghest, I.C.S. <i>Patna.</i>
1873 Dec. 3.	F.M.	Dames, Mansel Longworth, I.C.S. <i>Europe.</i>
1901 Aug. 28.	N.R.	Das, Govinda. <i>Benares.</i>
1903 Feb. 4.	N.R.	Das, Rai Bahadur Bhawan, M.A. <i>Hoshiarpur.</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 Mar. 4.	R.	Das-Gupta, Jogendra Nath, B.A., Barrister-at-Law <i>Calcutta.</i>
1904 July 6.	N.R.	De, Brajendra Nath, M.A., I.C.S. <i>Malda.</i>
1904 Sept. 28.	N.R.	DeCourcy, W. B. <i>Cachar.</i>
1903 June 3.	N.R.	De, Hari Nath, B.A. (Cantab). <i>Dacca.</i>
1895 Sept. 19.	N.R.	De, Kiran Chandra, B.A., I.C.S. <i>Faridpur.</i>
1902 Mar. 5.	R.	Deb, Raja Binoy Krishna, Bahadur. <i>Calcutta.</i>
1895 Dec. 4.	N.R.	Delmerick, Charles Swift. <i>Bareilly.</i>
1899 Aug. 30.	N.R.	Dev, Raj Kumar Satchidanand, Bahadur. <i>Deogarh, Sambalpur.</i>
1900 May 2.	N.R.	Dev, Raja Satindra, Rai Mahesaya. <i>Bansberia.</i>
1901 June 5.	N.R.	Dey, Nundolal. <i>Bankipore.</i>
1902 Feb. 5.	N.R.	Dixon, F. P. I.C.S. <i>Chittagong.</i>
1898 Jan. 5.	R.	Dods, W. K. <i>Calcutta.</i>
1902 July 2.	R.	Doxey, F. <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>
1902 Jan. 8.	R.	Drummond, J. R., I.C.S. <i>Calcutta.</i>
1892 Sept. 22.	R.	Drury, Major Francis James, M.B., I.M.S. <i>Calcutta.</i>

Date of Election.		
1889 Jan. 2.	N.R.	Dudgeon, Gerald Cecil, Holta Tea. Co., Ltd. <i>Palampur.</i>
1879 Feb. 5.	F.M.	Duthie, J. F., B.A., F.L.S. <i>Europe.</i>
1892 Jan. 6.	N.R.	Dutt, Gerindra Nath. <i>Hutwa.</i>
1877 Aug. 30.	R.	Dutt, Kedar Nath. <i>Calcutta.</i>
1900 April 4.	A.	Dyson, Major Herbert Jekyl, F.R.C.S., I.M.S. <i>Europe.</i>
1900 July 4.	R.	Earle, The Hon. Mr. A., I.C.S. <i>Calcutta.</i>
1901 June 5.	N.R.	Ede, Francis Joseph, C.E., A.M.I.C.E., F.G.S. <i>Silchar, Cachar.</i>
1903 Oct. 28.	R.	Edelston, T. D. <i>Calcutta.</i>
1903 May 6.	N.R.	Edwards, Walter Noel. <i>Sootea, Assam.</i>
1900 Mar. 7.	R.	Fanshawe, Sir Arthur Upton, C.S.I., K.C.I.E., I.C.S. <i>Calcutta.</i>
1900 Aug. 29.	A.	Fanshawe, The Hon. Mr. H. C., C.S.I., I.C.S. <i>Europe.</i>
1901 Mar. 6.	A.	Fergusson, J. C. <i>Europe.</i>
1904 Aug. 3.	R.	Fermor, L. Leigh. <i>Calcutta.</i>
1894 Dec. 5.	A.	Finn, Frank, B.A., F.Z.S. <i>Europe.</i>
1898 Sept. 30.	R.	Firminger, The Revd. Walter K., M.A. <i>Calcutta.</i>
1902 April 2.	N.R.	Fuller, The Hon'ble Mr. J. B., I.C.S. <i>Shillong.</i>
1903 Mar. 4.	R.	Gage, Captain Andrew Thomas, M.A., M.B., B.S.C., F.L.S., I.M.S. <i>Sibpur.</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>
1902 June 4.	N.R.	Ghaznavi, A. A. <i>Mymensing.</i>
1889 Jan. 2.	R.	Ghose, Jogendra Chandra, M.A., B.L. <i>Calcutta.</i>
1902 Feb. 5.	R.	Ghosh, Girish Chunder, <i>Calcutta.</i>
1889 Mar. 6.	R.	Ghosh, Bhupendra Sri, B.A., B.L. <i>Calcutta.</i>
1869 Feb. 3.	N.R.	Ghosh, Pratapa Chandra, B.A. <i>Vindychal.</i>
1897 Dec. 6.	A.	Godfrey, Captain Stuart, I.A. <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>
1897 July 7.	A.	Grant, Captain J. W., I.M.S. <i>Europe.</i>
1876 Nov. 15.	A.	Grierson, George Abraham, Ph.D., C.I.E., I.C.S. <i>Europe.</i>
1900 Dec. 5.	L.M.	Grieve, J. W. A. <i>Kalimpong.</i>
1901 April 3.	N.R.	Guha, Abhaya Sankara. <i>Goalpara.</i>
1898 June 1.	N.R.	Gupta, Bepin Behari. <i>Cuttack.</i>
1898 April 6.	R.	Gupta, Krishna Govinda, I.C.S., Barrister-at-Law. <i>Calcutta.</i>
1898 Jan. 5.	N.R.	Gurdon, Major P. R. T., I.A. <i>Gauhati.</i>
1901 Mar. 6.	N.R.	Habibur Rahman Khan, Maulavie. <i>Bhikampur.</i>
1892 Jan. 6.	N.R.	Haig, Major Wolseley, I.A. <i>Berar.</i>

Date of Election.		
1904 Sept. 28.	R.	Hallward, N. L. <i>Calcutta.</i>
1899 April 5.	A.	Hare, Major E. C., I.M.S. <i>Europe.</i>
1884 Mar. 5.	L.M.	Hassan Ali Qadr, Sir Sayid, Nawab Bahadur, K.C.I.E. <i>Murshedabad.</i>
1897 Feb. 3.	R.	Hayden, H. H., B.A., B.E., F.G.S., Geological-Survey of India. <i>Calcutta.</i>
1904 June 1.	F.M.	Hewett, J. F., I.C.S. (retired). <i>Europe.</i>
1904 Dec. 7.	N.R.	Hill, E. G. <i>Allahabad.</i>
1892 Aug. 3.	A.	Hill, Samuel Charles, B.A., B.SC. <i>Europe.</i>
1872 Dec. 5.	A.	Hoernle, Augustus Frederick Rudolf, PH.D., C.I.E. <i>Europe.</i>
1891 July 1.	R.	Holland, Thomas Henry, A.R.C.S., F.G.S., F.B.S., Director, Geological Survey of India. <i>Calcutta.</i>
1898 Feb. 2.	R.	Hooper, David, F.C.S. <i>Calcutta.</i> [bad.]
1884 Mar. 5.	N.R.	Hooper, The Hon. Mr. John, B.A., I.C.S. <i>Allaha-</i>
1901 Dec. 4.	R.	Hossack, Dr. W. C. <i>Calcutta.</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>
1903 Sept. 23.	N.R.	Ito, Professor C. <i>Bombay.</i>
1904 Jan. 6.	R.	Jackson, V. H., M.A. <i>Sibpur.</i>
1899 April 5.	R.	Kempthorne, H. E. <i>Calcutta.</i>
1882 Mar. 1.	N.R.	Kennedy, Pringle, M.A. <i>Mozufferpore.</i>
1867 Dec. 4.	A.	King, Sir George, M.B., K.C.I.E., LL.D., F.L.S., F.R.S., I.M.S. (retired). <i>Europe.</i>
1904 May 4.	N.R.	Knox, K. N., I.C.S. <i>Banda.</i>
1896 Aug. 27.	A.	Konstam, Edwin Max. <i>Europe.</i>
1896 July 1.	R.	Küchler, George William, M.A., Bengal Educa- tion Service. <i>Calcutta.</i>
1891 Feb. 4.	N.R.	Kupper, Raja Lala Bunbehari. <i>Burdwan.</i>
1899 Aug. 30.	N.R.	Lal, Dr. Mannu. <i>Banda.</i>
1902 Feb. 5.	N.R.	Lal, Lala Shyam. <i>Allahabad.</i>
1904 Jan. 6.	N.R.	Lal, Panita, M.A., B.SC. <i>Damoh.</i>
1902 Jan. 8.	A.	Lall, Parmeshwara. <i>Europe.</i>
1887 May 4.	L.M.	Lanman, Charles R. <i>Europe.</i>
1889 Mar. 6.	R.	La Touche, Thomas Henry Digges, B.A., Geolo- gical Survey of India. <i>Calcutta.</i>
1900 Sep. 19.	R.	Law, The Hon. Sir Edward F. G., K.C.M.G., C.S.I. <i>Calcutta.</i>
1902 July 2.	N.R.	Leake, H. M. <i>Saharanpur.</i>
1889 Nov. 6.	A.	Lee, W. A., F.R.M.S. <i>Europe.</i>
1904 July 6.	R.	Lees, R. O. <i>Calcutta.</i>
1903 July 1.	N.R.	Lefroy, Harold Maxwell. <i>Mozufferpur.</i>
1900 May. 2.	A.	Leistikow, F. R. <i>Europe.</i>
1902 Oct. 29.	R.	Lewes, A. H. <i>Calcutta.</i> [Europe.]
1889 Feb. 6.	A.	Little, Charles, M.A., Bengal Education Service

Date of Election.		
1904 Oct. 31.	R.	Longe, Col. F. B., B.E. <i>Calcutta.</i>
1902 July 2.	R.	Luke, James. <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>Nadia.</i>
1902 July 2.	A.	Macdonald, Dr. William Roy. <i>Europe.</i>
1901 Aug. 7.	R.	Macfarlane, John, Librarian, Imperial Library. <i>Calcutta.</i>
1893 Jan. 11.	L.M.	Maclagan, E. D., M.A., I.C.S. <i>Calcutta.</i>
1891 Feb. 4.	N.R.	Macpherson, Duncan James, M.A., C.I.E., I.C.S. <i>Bhagulpur.</i>
1902 April 2.	N.R.	Maddox, Captain R. H., I.M.S. <i>Ranchi.</i>
1893 Aug. 31.	N.R.	Mahatha, Purmeshwar Narain. <i>Mozufferpore.</i>
1895 Aug. 29.	R.	Mahmud Gilani, Shamas-ul-Ulama Shaikh. <i>Calcutta.</i>
1898 Nov. 2.	N.R.	Maitra, Akshaya Kumar, B.A., B.L. <i>Rajshahi.</i>
1889 Jan. 2.	R.	Maliah, Kumar Ramessur. <i>Howrah.</i>
1901 June 5.	R.	Mann, H. H., B.Sc. <i>Calcutta.</i>
1893 Mar. 1.	N.R.	Marrriott, Charles Richardson, I.C.S. <i>Bhagul- pur.</i>
1902 May. 7.	N.R.	Marshall, J. H. <i>Simla.</i>
1903 Aug. 5.	R.	Masoom, Dr. Meerza Mohammad. <i>Calcutta.</i>
1892 April 6.	N.R.	Maynard, Major F. P., I.M.S. <i>Darjeeling.</i>
1901 Aug. 28.	R.	McLeod, Norman. <i>Calcutta.</i>
1899 Feb. 1.	N.R.	McMahon, Major A. H., C.S.I., C.I.E., I.A. <i>Quetta.</i>
1899 Mar. 1.	N.R.	McMinn, C. W., B.A., I.C.S. (retired). <i>Comilla.</i>
1895 July 3.	N.R.	Melitus, Paul Gregory, C.I.E., I.C.S. <i>Gauhati.</i>
1886 Mar. 3.	L.M.	Metha, Rustomjee Dhunjeebhoj, C.I.E. <i>Cal- cutta.</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.	R.	Middlemiss, C. S., B.A. Geological Survey of <i>India. Calcutta.</i>
1884 Sep. 3.	R.	Miles, William Harry. <i>Calcutta.</i>
1904 April 6.	R.	Miller, J. O., I.C.S. <i>Calcutta.</i>
1898 April 6.	N.R.	Milne, Captain C. J., I.M.S. <i>Purulia.</i>
1874 May. 6.	F.M.	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>Bareilly.</i>
1901 Aug. 28.	R.	Mitra, Kumar Narendra Nath. <i>Calcutta.</i>
1897 Nov. 3.	R.	Mitra, The Hon'ble Mr. Justice Saroda Charan, M.A., B.L. <i>Calcutta.</i>
1901 Aug. 7.	N.R.	Molony, E., I.C.S. <i>Ghazipur.</i>
1895 July 3.	N.R.	Monohan, Francis John, I.C.S. <i>Shillong.</i>
1898 May 4.	R.	Mookerjee, R. N. <i>Calcutta.</i>
1902 July 2.	A.	Morshead, L. F., I.C.S. <i>Europe.</i>

Date of Election.		
1894 June 6.	N.R.	Muhammad Shibli Noman, Shams-ul-Ulama Maulavi, Professor of Arabic in the Muhammadan Oriental College. <i>Aligarh.</i>
1904 Jan. 6.	R.	Mukerjee, Harendra Krishna, M.A. <i>Calcutta.</i>
1902 April 2.	R.	Mukerjee, Jaladhi Chunder. <i>Calcutta.</i>
1894 Aug. 30.	R.	Mukerjee, Sib Narayan. <i>Uttarpara.</i>
1900 May 2.	R.	Mukerji, P. B., B.Sc. <i>Calcutta.</i>
1899 Sept. 29.	R.	Mukharji, Jotindra Nath, B.A. <i>Calcutta.</i>
1886 May 5.	R.	Mukhopadhyaya, The Hon'ble Mr. Justice Asutosh, M.A., D.L., F.R.A.S., F.E.S.E. <i>Calcutta.</i>
1892 Dec. 7.	R.	Mukhopadhyaya, Panchanana. <i>Calcutta.</i>
1901 April 3.	R.	Mullick, Pramatha Nath. <i>Calcutta.</i>
1901 June 5.	N.R.	Mullick, Ramani Mohan. <i>Meherpur.</i>
1885 June 3.	N.R.	Naemwoollah, Maulavi, Deputy Magistrate. <i>Bijnor.</i>
1904 Dec. 7.	R.	Nathan, R., I.C.S. <i>Calcutta.</i>
1901 Mar. 6.	N.R.	Nevill, H. R., I.C.S. <i>Naini Tal.</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>
1899 Jan. 7.	A.	O'Brien, P. H., I.C.S. <i>Europe.</i>
1900 Dec. 5.	N.R.	O'Connor, Captain, W. F., R.A. <i>Gyantse.</i>
1900 Aug. 29.	A.	O'Dwyer, Michael Francis, B.A., I.C.S. <i>Europe.</i>
1880 Dec. 1.	A.	Oldham, R. D., A.R.S.M., F.G.S. <i>Europe.</i>
1887 July 6.	R.	Oung, Moung Hla. <i>Calcutta.</i>
1901 Jan. 2.	N.R.	Pande, Pandit Ramavatar, B.A., I.C.S. <i>Hardoi.</i>
1880 Aug. 4.	L.M.	Pandia, Pandit Mohanlall Vishnulall, F.T.S., <i>Muttra.</i>
1901 Aug. 28.	N.R.	Panton, E. B. H., I.C.S. <i>Bogra.</i>
1904 Aug. 3.	N.R.	Parasnis, D.B. <i>Satara.</i>
1880 Jan. 7.	R.	Pargiter, The Hon'ble Mr. Justice Frederick Eden, B.A., I.C.S. <i>Calcutta.</i>
1901 June 5.	R.	Parsons, W. <i>Calcutta.</i>
1899 Aug. 2.	N.R.	Peake, C. W., M.A., Bengal Education Service. <i>Jalpaiguri.</i>
1902 Aug. 6.	R.	Peal, H. W., F.E.S. <i>Calcutta.</i>
1873 Aug. 6.	R.	Pedler, The Hon. Mr. Alexander, C.I.E., F.R.S., Director of Public Instruction, Bengal. <i>Calcutta.</i>
1888 June 6.	L.M.	Pennell, Aubray Percival, B.A., Barrister-at-Law. <i>Rangoon.</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>

Date of Election.		
1889 Nov. 6.	N.R.	Phillott, Major D. C., I.A. <i>Nowshera.</i>
1904 June 1.	R.	Pilgrim, G. Ellcock. <i>Calcutta.</i>
1904 Mar. 4.	N.R.	Pim, Arthur W., I.C.S. <i>Jhansi.</i>
1889 Mar. 6.	A.	Prain, Lieut.-Col. David, M.A., M.B., LL.D., I.M.S., Superintendent, Royal Botanic Garden, <i>Europe.</i>
1889 Mar. 6.	N.R.	Prasad, Hanuman, Raes and Zemindar. <i>Chunar.</i>
1880 April 7.	N.R.	Rai, Bipina Chandra, B.L. <i>Mymensingh.</i>
1895 Aug. 29.	R.	Rai Chaudhery, Jatindra Nath, M.A., B.L. <i>Barnagar.</i>
1901 June 5.	N.R.	Rai, Lala Lajpat. <i>Lahore.</i>
1900 April 4.	A.	Raleigh, The Hon. Mr. T. <i>Europe.</i>
1898 Aug. 3.	N.R.	Ram, Sita, M.A. <i>Moradabad.</i>
1904 Mar. 4.	F.M.	Rapson, E. J. <i>Europe.</i>
1890 Mar. 5.	A.	Ray, Prafulla Chandra, D.Sc., Bengal Education Service. <i>Europe.</i>
1887 May 4.	N.R.	Ray, Prasanna Kumar, D.Sc. (Lond. and Edin.), Bengal Education Service. <i>Dacca.</i>
1884 Mar. 5.	R.	Risley, Herbert Hope, B.A., C.I.E., I.C.S. <i>Calcutta.</i>
1903 Mar. 4.	N.R.	Rogers, Charles Gilbert, F.L.S., F.C.H., Indian Forest Department. <i>Port Blair.</i>
1900 April 4.	R.	Rogers, Captain Leonard, M.D., B.Sc., M.B.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>
1901 Dec. 4.	R.	Ross, E. Denison, Ph.D. <i>Calcutta.</i>
1889 June 5.	N.R.	Roy, Maharaja Girjanath. <i>Dinagepur.</i>
1903 July 1.	R.	Roy, Maharaja Jagadindra Nath, Bahadur. <i>Calcutta.</i>
1896 Aug. 27.	N.R.	Samman, Herbert Frederick, I.C.S. <i>Jessore.</i>
1899 June 7.	N.R.	Sarkar, Chandra Kumar. <i>Kowkanik.</i>
1898 Mar. 2.	N.R.	Sarkar, Jadu Nath. <i>Bankipore.</i>
1897 Nov. 3.	R.	Saunders, C. <i>Calcutta.</i>
1902 Feb. 5.	R.	Schulten, Dr. C. <i>Calcutta.</i>
1900 Dec. 5.	N.R.	Schwaiger, Imre George. <i>Delhi.</i>
1893 Jan. 11.	L.M.	Scindia, His Highness the Maharaja. <i>Gwalior.</i>
1902 Feb. 5.	N.R.	Sen, A. C., I.C.S. <i>Bankura.</i>
1900 Dec. 5.	N.R.	Sen, Birendra Chandra, I.C.S. <i>Dinajpur.</i>
1901 Aug. 29.	R.	Sen, Upendranath. <i>Calcutta.</i>
1885 April 1.	R.	Sen, Yadu Nath. <i>Calcutta.</i>
1897 Dec. 1.	R.	Seth, Mesrovb, J. <i>Calcutta.</i>
1904 Jan. 6.	N.R.	Sharma, Pandit Gulab Shankar Dev, F.T.S. <i>Puchbadra.</i>
1900 Mar. 7.	R.	Shastree, Pandit Yogesha Chandra. <i>Calcutta.</i>
1885 Feb. 4.	R.	Shastri, Mahāmāhopādhyāya Haraprasād, M.A. <i>Calcutta.</i>
1902 Dec. 3.	N.R.	Shastri, Harnarain. <i>Delhi.</i>

Date of Election.			
1902 Mar. 5.	R.	Shastri, Rajendra Chandra, M.A.	<i>Calcutta.</i>
1903 April 1.	A.	Shaun, Montague Churchill.	<i>Europe.</i>
1900 May 2.	R.	Shrager, Adolphe.	<i>Calcutta.</i>
1899 May 3.	N.R.	Silberrad, Chas. A., I.C.S.	<i>Banda.</i>
1903 Aug. 26.	N.R.	Simpson, J. Hope, I.C.S.	<i>Allahabad.</i>
1904 April 6.	R.	Simpson, Maurice George, M.I.E.E.	<i>Calcutta.</i>
1904 June 1.	R.	Simpson, Robert Rowell, B.S.C.	<i>Calcutta.</i>
1893 Mar. 1.	N.R.	Singh, Maharaja Kumara Sirdar Bharat,	I.C.S. <i>Ghazipur.</i>
1902 Sep. 24.	R.	Singh, Kumar Birendra Chandra.	<i>Calcutta.</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>
1889 Nov. 6.	N.R.	Singh, H.H. The Hon. Maharaja Ramesh-	wara, Bahadur. <i>Darbhanga.</i>
1894 Feb. 7.	N.R.	Singh, H.H. Raja Vishwa Nath, Bahadur,	Chief of Chhatarpur.
1901 Aug. 7.	R.	Singha, Chandra Narayan.	<i>Calcutta.</i>
1904 Mar. 4.	N.R.	Singha Kumar Kamlananda.	<i>Srinagar.</i>
1894 July 4.	N.R.	Sinha, Kunwar Kushal Pal, M.A.	<i>Narki P.O., Agra District.</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>Rampore Haut.</i>
1901 Dec. 4.	A.	Spooner, D. Brainerd.	<i>Europe.</i>
1904 Sept. 28.	R.	Stapleton, H. E.	<i>Calcutta.</i>
1898 April 6.	N.R.	Stark, Herbert A., B.A.	<i>Cuttack.</i>
1901 Mar. 6.	N.R.	Stebbing, E. P.	<i>Dehra Dun.</i>
1891 Aug. 27.	N.R.	Stein, M. A., Ph.D.	<i>Peshawar.</i>
1895 July 5.	A.	Steinberg, Alfred Frederick, I.C.S.	<i>Europe.</i>
1904 June 1.	R.	Stephen, Hon'ble Mr. Justice, H. L.	<i>Calcutta.</i>
1899 Aug. 30.	R.	Stephen, St. John, B.A., LL.B. Barrister-at-	Law. <i>Calcutta.</i>
1900 Aug. 29.	F.M.	Stephenson, Captain John, I.M.S.	<i>Europe.</i>
1904 July 6.	N.R.	Streatfeild, C. A. C., I.C.S.	<i>Naini Tal.</i>
1904 Jan. 6.	N.R.	Stuart, Louis, I.C.S.	<i>Orai.</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>
1904 July 6.	N.R.	Talbot, Walter Stanley, I.C.S.	<i>Srinagar, Kashmir.</i>
1893 Aug. 31.	N.R.	Tate, G. P.	<i>Seistan.</i>
1878 June 5.	N.R.	Temple, Colonel Sir Richard Carnac, Bart.,	C.I.E., I.A. <i>Port Blair.</i>
1904 May 4.	N.R.	Thanawala, Framjee Jamasjee.	<i>Bombay.</i>

Date of Election.			
1875	June 2.	N.R.	Thibaut, Dr. G., Mair Central College. <i>Allahabad.</i>
1898	Nov. 2.	R.	Thornton, Edward, F.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.	F.M.	Thurston, Edgar. <i>Europe.</i>
1904	June 1.	N.R.	Tipper, George Howlett, F.G.S. <i>Calcutta.</i>
1899	Mar. 1.	R.	Tocher, A. <i>Calcutta.</i>
1861	June 5.	L.M.	Tremlett, James Dyer, M.A., I.C.S. (retired). <i>Europe.</i>
1893	May 3.	N.R.	Vanja, Raja Ram Chandra. <i>Mayurbhanga, District Balasore.</i>
1898	Feb. 2.	R.	Vasu, Amrita Lal. <i>Calcutta.</i>
1900	Aug. 29.	A.	Vaughan, Major J. C., I.M.S., <i>Europe.</i>
1890	Feb. 5.	N.R.	Venis, Arthur, M.A., Principal, Sanskrit College. <i>Benares.</i>
1902	May 7.	R.	Vidyabhushan, Jogendra Nath Sen. <i>Calcutta.</i>
1902	June 4.	R.	Vidyabhushan, Pandit Satis Chandra, M.A. <i>Calcutta.</i>
1901	Mar. 6.	N.R.	Vogel, J. Ph., Ph.D. <i>Lahore.</i>
1894	Sept. 27.	L.M.	Vost, Major William, I.M.S. <i>Muttra.</i>
1902	Oct. 29.	R.	Vredenburg, E. <i>Calcutta.</i>
1901	Aug. 7.	A.	Walker, Dr. T. L. <i>Europe.</i>
1900	Jan. 19.	R.	Wallace, David Robb. <i>Calcutta.</i>
1901	June 5.	R.	Walsh, E. H., I.C.S. <i>Calcutta.</i>
1889	Nov. 6.	R.	Walsh, Lieut.-Col. John Henry Tull, I.M.S. <i>Calcutta.</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>Europe.</i>
1874	July 1.	A.	Watt, Sir George, Kt., C.I.E. <i>Europe.</i>
1902	April 2.	A.	Wheeler, H., I.C.S. <i>Europe.</i>
1904	Mar. 4.	R.	Wood, William Henry Arden, M.A., F.C.S. F.R.G.S. <i>Calcutta.</i>
1900	Dec. 5.	A.	Woodman, H. C., I.C.S. <i>Europe.</i>
1894	Sept. 27.	R.	Woodroffe, The Hon Mr. Justice 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>

SPECIAL HONORARY CENTENARY MEMBERS.

Date of Election.	
1884 Jan. 15.	Dr. Ernst Hæckel, 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.

Date of Election.	
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>
1879 June 4.	Dr. Albert Günther, M.A., M.D., PH.D., F.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>
1883 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.	Mahāmāhāpadhyāya 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., 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.S.C., F.L.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 Lanman. <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>

Date of Election.	
1899 Dec. 6.	Professor Edward Burnett Tylor, D.C.L., LL.D., F.R.S. <i>Oxford.</i>
1899 Dec. 6.	Professor Edward Suess, P.H.D., For. Mem. R.S. <i>Vienna.</i>
1901 Mar. 6.	Professor J. W. Judd, C.B., LL.D., F.R.S. <i>London.</i>
1902 Nov. 5.	Monsieur R. Zeiller. <i>Paris.</i>
1904 Mar. 2.	Professor Heinrich Kern. <i>Leiden.</i>
1904 Mar. 2.	Professor Ramkrishna Gopal Bhandarkar, C.I.E. <i>Poona.</i>
1904 Mar. 2.	Professor M. J. DeGoeje. <i>Leiden.</i>
1904 Mar. 2.	Professor Ignaz Goldziher, Budapest.
1904 Mar. 2.	Sir Charles Lyall, M.A., K.C.S.I. <i>London.</i>
1904 Mar. 2.	Sir William Ramsay, PH.D., (Tüb.) LL. D., SC.D. (Dubl.) F.C.S., F.I.C.
1904 July 2.	Dr. George Abraham Grierson, PH.D., C.I.E., I.C.S. <i>London.</i>

ASSOCIATE MEMBERS.

Date of Election.	
1874 April 1.	The Revd. E. Lafont, C.I.E., S.J. <i>Calcutta.</i>
1875 Dec. 1.	The Revd. J. D. Bate, M.R.A.S. <i>Kent.</i>
1875 Dec. 1.	Manlavie Abdul Hai. <i>Calcutta.</i>
1882 June 7.	Herbert, Giles, Esq. <i>Europe.</i>
1884 Aug. 6.	F. Moore, Esq., F.L.S. <i>Surrey.</i>
1885 Dec. 2.	Dr. A. Führer, <i>Europe.</i>
1886 Dec. 1.	Rai Bahadur Sarat Chandra Das, C.I.E. <i>Calcutta.</i>
1892 April 6.	Pandit Satya Vrata Samasrami. <i>Calcutta.</i>
1892 Dec. 7.	Professor P. J. Brühl. <i>Sibpur.</i>
1899 April 5.	Rai Bahadur Ram Brahma Sanyal. <i>Calcutta.</i>
1899 April 5.	Pandit Visnu Prasad Raj Bhandari. <i>Nepal.</i>
1899 Nov. 1.	The Revd. E. Francotte, S.J. <i>Calcutta.</i>
1902 June 4.	The Revd. A. H. Francke. <i>Leh.</i>

LIST OF MEMBERS WHO HAVE BEEN ABSENT FROM INDIA THREE YEARS AND UPWARDS.*

* *Rule 40.*—After the lapse of three 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:—

Edwin Max Konstam, Esq.
Michael Francis O'Dwyer, Esq., B.A., I.C.S.
Alfred Frederick Steinberg, Esq., I.C.S.

LOSS OF MEMBERS DURING 1904.

BY RETIREMENT.

T. W. Arnold, Esq.
 The Hon. Dr. Gurudas Banerjee, D.L.
 Sir John Eliot, F.R.S.
 John Champion Faunthorpe, Esq., I.C.S.
 E. V. Gabriel, Esq., I.C.S.
 A. Garrett, Esq., I.C.S.
 Babu Roomall Goenka.
 The Hon. Mr. W. C. Macpherson, C.S.I., I.S.C.

BY DEATH.

Ordinary Members.

Dr. U. C. Mukerjee.
 A. T. Pringle, Esq.
 Harjeebhoy Manickjee Rustomjee, Esq., C.I.E.
 Dr. Mahendralal Sircar, M.D., C.I.E., D.L.
 Dr. Charles Robert Wilson, M.A., D. LITT.

Honorary Member.

Dr. Otto von Böttlingk.

Corresponding Member.

Dr. Emil Schlagintweit.

BY REMOVAL.

Under Rule 9.

P. B. Bramley, Esq.
 Babu Gopal Chandra Chatterjee.
 Mahammad Rafiq, Esq., Barrister-at-Law.

Under Rule 38.

Babu Manmatha Nath Chakravarti.
 Captain W. A. Cuppage, I.A.
 Rai Narsingh Chunder Dutt, Bahadur.
 B. Suryanaran Rao, Esq., B.A.
 Babu Purnendu Narayan Singh.
 Lala Shyam Sunder Srivastavya.

Under Rule 40.

Dr. Frank Gerard Clemow, M.D., Edin.
 Sir Alfred W. Croft, M.A., K.C.I.E.
 Lieut. M. Ll. Ferrar, I.A.
 A. J. Grant, Esq., I.C.S.

[APPENDIX.]

ABSTRACT STATEMENTS
OF
RECEIPTS AND DISBURSEMENTS
OF THE
ASIATIC SOCIETY OF BENGAL
FOR
THE YEAR 1904.

1904.

STATEMENT

Asiatic Society

Dr.

To ESTABLISHMENT.

			Rs.	As.	P.		Rs.	As.	P.
Salaries	...	...	3,480	7	11				
Commission	...	...	375	11	11				
Pension	...	...	112	0	0				
							3,948	8	10

To CONTINGENCIES.

Stationery	...	...	133	14	10				
Taxes	...	...	884	4	0				
Postage	...	...	566	13	0				
Freight	...	...	128	15	3				
Meeting	...	...	105	2	6				
Auditor's fee	...	...	100	0	0				
Insurance fee	...	...	312	8	0				
Electric Punkhas and Lights	...	...	218	0	0				
Repairs	...	...	2,686	4	0				
Petty repairs	...	...	28	15	3				
Building	...	...	77	9	6				
Miscellaneous	...	...	459	4	9				
							5,701	11	1

To LIBRARY AND COLLECTIONS.

Books	...	...	2,185	4	5				
Binding	...	...	599	0	0				
Catalogue	...	...	81	1	1				
Cleaning, &c., of Pictures	...	...	1,306	0	0				
Picture Frame (Freight and other charges)	...	...	566	4	9				
Furniture	...	...	353	5	6				
							5,040	15	9

To PUBLICATIONS.

Journal, Part I	...	...	1,486	14	3				
Journal, Part II	...	...	1,381	2	0				
Journal, Part III	...	...	854	10	0				
Proceedings	...	...	752	14	6				
							4,425	8	9
To Printing charges of Circulars, Receipt-forms, &c.	...	...					200	2	0
„ Personal Account (Writes-off and Miscellaneous)	...	...					644	0	0

To EXTRAORDINARY EXPENDITURE.

Royal Society's Scientific Catalogue	...	...					5,842	0	10
Balance	...	...					1,92,989	7	5
TOTAL Rs.	...	...					2,18,742	1	8

No. 1.
of Bengal.

1904.

Cr.

	Rs.	As.	P.	Rs.	As.	P.
By Balance from last Report				1,81,826	9	6

BY CASH RECEIPTS.

Publications sold for cash	790	6	8			
Interest on Investments	6,786	8	0			
Rent of a Room on the Society's ground floor	730	0	0			
Allowance from Government of Bengal for the Publication of Anthropological and Cognate subjects	2,000	0	0			
Allowance from Govt. of Assam for Do. Do.	1,000	0	0			
Grant from Government of India for repair- ing the Society's building	10,000	0	0			
Miscellaneous	80	2	0			
				21,387	0	8

. BY EXTRAORDINARY RECEIPTS.

Subscriptions to Royal Society's Scientific Catalogue				5,352	4	6
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BY PERSONAL ACCOUNT.

Admission fees	1,088	0	0			
Subscriptions	8,704	0	0			
Sales on credit	343	8	0			
Miscellaneous	35	11	0			
				10,176	3	0

TOTAL Rs.	2,18,742	1	8
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ASUTOSH MUKHOPADHYAY,
Honorary Treasurer,
Asiatic Society of Bengal.

STATEMENT
1904. Oriental Publication Fund in Acct.

Dr.

To CASH EXPENDITURE.

	Rs.	As.	P.	Rs.	As.	P.
Printing charges	10,763	11	0			
Editing charges	4,971	5	0			
Salaries	1,412	10	2			
Freight	1	2	3			
Contingencies	114	12	0			
Stationery	81	11	4			
Postage	408	6	6			
Commission on collections	17	9	5			
Binding	2	6	0			
				17,904	10	5
To Personal Account (Writes-off and Miscellaneous)				103	2	0
Balance				5,097	1	3
TOTAL Rs.				23,104 18 8		

STATEMENT

1904. Sanskrit Manuscript Fund in Acct.

Dr.

To CASH EXPENDITURE.

	Rs.	As.	P.	Rs.	As.	P.
Salaries	1,182	0	0			
Travelling charges	788	1	6			
Postage	0	3	0			
Stationery	8	11	0			
Purchase of Manuscripts	3,724	4	0			
Binding	1	0	0			
Contingencies	845	14	9			
				6,043	2	3
Balance				3,578	0	5
TOTAL Rs.				9,621 2 8		

No. 2.

with the Asiatic Society of Bengal. 1904.

Cr.

	Rs.	As.	P.	Rs.	As.	P.
By Balance from last Report	11,241	3	8
BY CASH RECEIPTS.						
Government Allowance	9,000	0	0	
Publications sold for cash	1,388	13	3	
Advances recovered	88	14	3	
				10,427	11	6
BY PERSONAL ACCOUNT.						
Sales on credit	1,435	14	6
TOTAL Rs.				23,104	13	8

ASUTOSH MUKHOPADHYAY,
Honorary Treasurer,
Asiatic Society of Bengal.

No. 3.

with the Asiatic Society of Bengal. 1904.

Cr.

	Rs.	As.	P.	Rs.	As.	P.
By Balance from last Report	6,387	14	8
BY CASH RECEIPTS.						
Government Allowance	3,200	0	0	
Publications sold for cash	1	4	0	
				3,201	4	0
BY PERSONAL ACCOUNT.						
Sales on credit	32	0	0
TOTAL Rs.				9,621	2	8

ASUTOSH MUKHOPADHYAY,
Honorary Treasurer,
Asiatic Society of Bengal.

STATEMENT
1904. Arabic and Persian MSS. Fund in

Dr.

TO CASH EXPENDITURE.

	Rs.	As.	P.	Rs.	As.	P.
Salaries	265	15	3			
Contingencies	1	0	0			
Purchase of Manuscripts	175	15	0			
Postage	2	1	0			
Travelling charges	189	8	0			
				634	7	3
Balance				6,365	8	9
TOTAL Rs.				7,000 0 0		

STATEMENT

1904. Personal

Dr.

	Rs.	As.	P.	Rs.	As.	P.
To Balance from last Report				7,794	5	2
TO CASH EXPENDITURE.						
Advances for purchase of Sanskrit Manuscripts, &c.				4,932	8	1
To Asiatic Society	10,176	3	0			
„ Oriental Publication Fund	1,435	14	6			
„ Sanskrit Manuscript Fund	32	0	0			
				11,644	1	6
TOTAL Rs.				24,370 14 9		

No. 4.

Acct. with the Asiatic Society of Bengal.

1904.

Cr.

BY CASH RECEIPTS.

				Rs.	As.	P.
Government Allowance	...	...	...	7,000	0	0
TOTAL Rs.				7,000	0	0

ASUTOSH MUKHOPADHYAY,
Honorary Treasurer,
Asiatic Society of Bengal.

No. 3.

Account.

1904.

Cr.

				Rs.	As.	P.	Rs.	As.	P.
By Cash Receipts	...	...	...	...	...	...	18,660	11	11
„ Asiatic Society	...	...	...	644	0	0			
„ Oriental Publication Fund	...	...	...	103	2	0			
							747	2	0

By Balance.	Due to the Society.			Due by the Society.		
	Rs.	As.	P.	Rs.	As.	P.
Members ...	5,194	9	9	200	9	5
Subscribers	25	9	0	...	...	...
Employés ...	30	0	0	100	0	0
Miscellaneous	93	14	6	80	7	0
	5,344	1	8	381	0	5

...	4,963	0	10
TOTAL Rs.	24,370	14	9

ASUTOSH MUKHOPADHYAY,
Honorary Treasurer,
Asiatic Society of Bengal.

STATEMENT

1904.

Invest-

		Dr.			Value.			Cost.		
					Rs.	As.	P.	Rs.	As.	P.
To Balance from last Report	1,89,300	0	0	1,88,104	2	7	
„ Cash...	14,000	0	0	18,848	6	10	
TOTAL Rs.				2,02,300	0	0	2,01,952	9	5	

FUNDS.	PERMANENT.						TEMPORARY.						Total Cost.		
	Value.			Cost.			Value.			Cost.					
	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.
Asiatic Society	1,48,600	0	0	1,48,143	6	8	43,300	0	0	48,475	6	6	1,96,618	13	2
Trust Fund	1,400	0	0	1,339	6	0	...	0	0	...	0	0	1,339	6	0
	1,50,000	0	0	1,49,482	12	8	48,300	0	0	48,475	6	6	1,97,958	3	2

STATEMENT

1904.

Trust

		Dr.			Rs. As. P.		
					Rs.	As.	P.
To Pension	28	0	0
Balance	1,455	11	10
TOTAL Rs.				...	1,483	11	10

No. 6.
ment.

1904.

Cr.

	Value.			Cost.		
	Rs.	As.	P.	Rs.	As.	P.
By Cash	4,000	0	0
„ Balance	1,98,800	0	0
TOTAL Rs.	2,02,800	0	0
				2,01,952	9	5

ASUTOSH MUKHOPADHYAY,
Hony. Treasurer,
Asiatic Society of Bengal.

No. 7.
Fund.

1904.

Cr.

	Rs.	As.	P.
By Balance from last Report	...	...	...
„ Interest on Investment	...	...	...
TOTAL Rs.	...	...	...
	1,484	11	10
		49	0
	1,483	11	10

ASUTOSH MUKHOPADHYAY,
Hony. Treasurer,
Asiatic Society of Bengal.

STATEMENT

1904.

Cash

Dr.

		Rs.		As.		P.	
To Balance from last Report
RECEIPTS.							
To Asiatic Society
„ Oriental Publication Fund
„ Sanskrit Manuscript Fund
„ Arabic and Persian Manuscript Fund
„ Personal Account
„ Investment
„ Trust Fund
TOTAL Rs.	

STATEMENT

1904.

Balance

Dr.

		Rs.		As.		P.	
To Cash
„ Investments
„ Personal Account
TOTAL Rs.	

We have examined the above Balance Sheet and the appended detailed accounts with the books and vouchers presented to us, and certify that it is in accordance therewith, correctly setting forth the position of the Society as at the 31st December, 1904.

CALCUTTA,
February 24th, 1905.

MEUGENS, KING AND SIMSON,
Auditors.

No. 8.

Account.

1904.

Cr.

EXPENDITURE.

	Rs.	As.	P.	Rs.	As.	P.
By Asiatic Society ...	25,158	10	3			
„ Oriental Publication Fund ...	17,904	10	5			
„ Sanscrit Manuscript Fund ...	6,043	2	3			
„ Arabic and Persian Manuscript Fund ...	634	7	3			
„ Personal Account ...	4,932	8	1			
„ Investment ...	13,848	6	10			
„ Trust Fund ...	28	0	0	68,549	13	1
Balance ...				6,514	9	8
TOTAL Rs. ...				75,064	6	9

ASUTOSH MUKHOPADHYAY,
Hony. Treasurer,
Asiatic Society of Bengal.

No. 9.

Sheet.

1904.

Cr.

	Rs.	As.	P.	Rs.	As.	P.
By Asiatic Society ...	1,92,989	7	5			
„ Oriental Publication Fund ...	5,097	1	3			
„ Sanskrit Manuscript Fund ...	3,578	0	5			
„ Arabic and Persian Manuscript Fund ...	6,365	8	9			
„ Trust Fund ...	1,455	11	10	2,09,435	13	8
TOTAL Rs. ...				2,09,435	13	8

ASUTOSH MUKHOPADHYAY,
Hony. Treasurer,
Asiatic Society of Bengal.

LIBRARY.

The following new books have been added to the Library from January to April 1905. The continuations of all the serials and works in progress have been received.

Abdul Wali, Mauluri. Ethnographical Notes on the Muhammadan Castes of Bengal. [Bombay, 1904.] 8°.

Reprinted from the Journal of the Anthropological Society of Bombay, vol. VII.

Presd. by the Author.

Abdur Rahman, H. المرتضى [Almortaza or life of Hazrat Ali, the fourth Chalif, with a map of Arabia. In Urdu.] [Amritsar, 1901.] 8°.

———. عربي بول چال. [Arabi Bol Chal. Parts I—II. A Treatise on current Arabic dialect in Egypt and Syria. In Urdu.] [Amritsar, 1904.] 8°.

———. الصديق. [As-Siddiq or the life of Abu Bakr, the Just, 1st Chalif, with a map of ancient Arabia. In Urdu.] [Amritsar 1901.] 8°.

———. كتاب النحو. [Kitab un Nahv. A Treatise on Arabic Syntax. In Urdu.] [Amritsar, 1903.] 8°.

———. كتاب الصرف. [Kitab us Sarf. A Treatise on Arabic Etymology. In Urdu.] [Amritsar, 1904.] 8°.

———. سفرنامه بلاد اسلاميه. [Safarnamai Beladi Islamai. Part I. In Urdu.] [Amritsar, 1905.] 8°.

Presd. by the Author.

Abul Fazl Allami, Shaikh. (۲) آئين اکبري جلد. [Persian Ms. of Ain-i Akbari. vol. II.] 8°.

Presd. by Syed Shamsul Huda.

Ameghino, Florentino. Paleontologia Argentina. La Plata, 1904. 8°.

Presd. by the Universidad de la Plata.

Ananda Ranga Pillai. The Private Diary of Ananda Ranga Pillai, Dubash to Joseph François Dupleix, Governor of Pondicherry. A record of matters political, historical, social, and personal, from 1736 to 1761. Translated from the Tamil...and edited by Sir J. F. Price...Assisted by K. Ranga-chari. vol. I, etc. *Madras, 1904, etc., 8°.*

Presd. by the Government of Madras

———. Dupleix and Labourdonnais. Les Français dans l'Inde. ... Extraits du journal d'Anandarangappoullé... —1736-1748. —Traduits du tamoul par J. Vinson. *Paris, 1894. 8°.*

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ARABIAN NIGHT'S ENTERTAINMENTS. The Book of the Thousand Nights and a Night. Translated from the Arabic by Captain Sir R. F. Burton. Reprinted from the original edition and edited by C. Smithers. Illustrated...by A. Letchford. vols. I. and II. *London, 1897. 8°.*

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ARCHÆOLOGICAL SURVEY OF INDIA. Annual Report, 1902-03, etc. *Calcutta, 1904, etc. 4°.*

Presd. by the Survey.

———General Index to the Reports of the Archæological Survey of India. Volumes I to XXIII. Published under the superintendence of Major-General Sir A. Cunningham, by V. A. Smith. With a glossary and general Table of Contents. *Calcutta, 1887. 8°.*

THE ART-JOURNAL. New Series, vol. VI. *London, 1860. fol.*

Presd. by H.H. the Maharaja of Tippera.

ATHARVA VEDA BHĀṢYA. The Atharva Veda Bhāṣya. ...Translation and with the Commentary in Sanskrit and Hindi by Giridhari Lala Shastri. *Farrukhabad, [] 8°.*

Presd. by the Translator.

AVESTA, PAHLAVI and Ancient Persian studies, in honour of the late Shams-ul-Ulama Dastur Peshotanji Behramji Sanjana. First series, etc. *Struissburg, 1904, etc. 8°.*

Presd. by the Trustees of the Parsee Panchayet, Bombay.

Bernier, François. Travels in the Mogul Empire, A.D. 1656-1668...A revised and improved edition based upon Irving Brock's translation by A. Constable. *Westminster*, 1891. 8°.

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Beylié, De. General. Le Palais d'Angkor Vat, ancienne résidence des rois Khmers. *Hanoi*, 1903. 8°.

Bhatta, Brāja Nāth. Marichikā. A gloss on Bramhasutra... Edited by Ratna Gopāl Bhaṭṭa. Fasc. I, etc. *Benares*, 1905, etc. 8°.

Chowkhamba Sanskrit Series, No. 86.

Bhattamalla. Akhyātacandrikā. ...Edited by S. P. V. Ranganathasvami Ayyavaralugaru. *Benares*, 1904. 8°.

Chowkhamba Sanskrit Series, No. 82.

Blagdon, Francis William. A Brief History of Ancient and Modern India from the earliest period of antiquity to the termination of the late Mahratta War. *London*, 1805. fol.

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BRESLAU.—Stadtbibliothek. Verzeichnis der arabischen, persischen, türkischen und hebräischen Handschriften der Stadtbibliothek zu Breslau. Von C. Brockelmann. *Breslau*, 1903. 8°.

BRITISH MUSEUM. The Coins of the Moghul Emperors of Hindustan...By S. Lane-Poole. Edited by R. S. Poole. *London*, 1892. 8°.

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CACHARI First and Second Reader. *Shillong*, 1904. 8°.

Presd. by the Govt. of Assam.

CAPE TOWN.—Geological Commission. Index to the Annual Reports...for the years 1896-1903. Compiled by E. H. L. Schwarz. *Cape Town*, 1904. 8°.

Presd. by the Geological Commission, Cape Town.

Castex, R. Le Péril japonais en Indo-Chine. Réflexions politiques et militaires. *Paris*, [1904.] 8°.

Chantepie de la Saussaye, P. D. Manuel d'histoire des religions. Traduit de l'allemand, etc. *Paris*, 1904. 8°.

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Cordier, Henri. Histoire des relations de la Chine avec les puissances occidentales, 1860-1902. 3 vols. *Paris*, 1901-1902. 8°.

Coyajee, J. C. The Spirit of the Gathas. A lecture. [Bombay, .] 12°.

The Gatha Society's Publications. No. 1.

Presd. by the Trustees of the Parsee Panchayet, Bombay.

Deussen, Paul. Erinnerungen an Indien...Mit einer Karte, 16 Abbildungen und einem Anhang.—“On the Philosophy of the Vedanta in its relations to occidental Metaphysics.” *Kiel, Leipzig*, 1905. 8°.

Doumer, Paul. L'Indo-Chine française—Souvenirs. *Paris*, 1905. 4°.

D'Oyly, Sir Charles. Views of Calcutta and its environs, *London*, 1848. fol.

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Drāhyāyana. The Sranta-Sūtra of Drāhyāyana with the Commentary of Dhanvin. Edited by J. N. Reuter. Part I, etc. *London*, 1904, etc. 4°.
Reprinted from the 'Acta Societatis Scientiarum Fennicæ.'

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Duckworth, W. L. H. Morphology and Anthropology. A handbook for students. *Cambridge*, 1904. 8°.

Dupuy, J. Th. La Peste. Étude critique des moyens prophylactiques actuels. *Paris*, 1904. 8°.

Dutton, Clarence Edward. Earthquakes in the light of the New Seismology. *London*, 1904. 8°.

ENCYCLOPÆDIA BRITANNICA. Tenth edition...New volumes. (Maps—Index.) 11 vols. *Edinburgh*, 1902-03. 4°.

Filchner, Wilhelm. Ein Ritt über den Pamir. *Berlin*, 1903. 8°.

Firdausi. Shâh Nâmeh. Translated into Guzarati from Firdousi from the commencement up to the reign of King Minocheher, with an appendix containing an account of the Kings according to the Avesta Pâhlavi and other Persian books, by Jivanji Jamshedji Modi. [*Bombay*], 1904. 8°.

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Forrest, G. W. A History of the Indian Mutiny. Reviewed and illustrated from original documents. 2 vols. *Edinburgh, London*, 1904. 8°.

Foucher, A. L'Art gréco-bouddhique du Gandhâra. Étude sur les origines de l'influence classique dans l'art bouddhique de l'Inde et de l'Extrême-Orient. Vol. 1, etc. *Paris*, 1905, etc. 8°.

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——— Étude sur l'iconographie bouddhique de l'Inde d'après des textes inédits. *Paris*, 1905. 8°.

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Gaillard, L. Nankin d'alors et d'aujourd'hui. Aperçu historique et géographique. *Chang-Hai*, 1903. 8°.
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Variétés Sinologiques No. 18.

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A GENERAL History of Quadrupeds...The fourth edition. *New-Castle-upon-Tyne*, 1800. 8°.

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Hæckel, Ernest. The Wonders of Life. A popular study of Biological Philosophy. Supplementary volume to "The Riddle of the Universe"...Translated by J. McCabe. *London*, 1904. 8°.

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Hamilton, Anthony. Memoirs of Count Grammont...Edited, with notes, by Sir Walter Scott. With portrait of the author and...other etchings by L. Boisson after original designs by C. Delort. *London*, 1896. 8°.

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Harcourt, Lieut. A. The New Guide to Delhi. *Allahabad*, 1866. 8°.

Hava, Rev. Fr. J. G. Arabic-English Dictionary for the use of students. *Beyrut*, 1899. 8°.

Havell, E. B. A Handbook to Agra and the Taj, Sikandra, Fatehpur-Sikri and the neighbourhood...With...illustrations, etc. *London*, 1904. 8°.

Hazlitt, W. Carew. Faith and Folklore. A Dictionary of National Belief, Superstitions and Popular Customs, past and current, with their classical and foreign analogues, described and illustrated, etc. 2 vols. *London*, 1905. 8°.

Hedin, Sven. Scientific Results of a journey in Central Asia 1899-1902. Text, vol. 1, etc. Maps, vol. 1, etc. *Stockholm*, [1904, etc.] 4°.

Herzog, Maximilian and OTHERS. I. Does Latent or Dormant Plague exist where the disease is endemic. By M. Herzog and C. B. Hare. II. Broncho-Pneumonia of Cattle: Its association with *B. Bovisepticus*. By P. G. Woolley and W. Sorrell. III. Report one Pinto—Paño Blanco. By P. G. Woolley. IV. Notes on Analysis of the water from the Manila water-supply. By C. L. Biss. V. Framboesia: Its occurrence in Natives of the Philippine Islands. By P. G. Woolley. *Manila*, 1904. 8°.

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Hilal al-Sâbi. The Historical Remains of Hilal al-Sâbi. First part of his *Kitab al-wuzara*.—Gotha Ms. 1756—and Fragment of his *History* 389-393 A. H.—B. M. Ms., Add 19.360.—Edited with notes and glossary by H. F. Amedroz. *Leyden*, 1904. 8°.

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Hirth, F. China and the Roman Orient: researches into their ancient and mediæval relations as represented in old Chinese records. *Leipzig, Munich*, 1885. 8°.

Hochreutiner, B. P. G. *Plantæ Bogorienses exsiccatæ. Novæ vel minus Cognitæ quæ in Horto Botanico coluntur.* [*Batavia*,] 1904. 8°.

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Huisman, M. *La Belgique commerciale sous l'empereur Charles VI. La Compagnie d'Ostende. Étude historique de politique commerciale et coloniale.* *Bruzelles, Paris*, 1902. 8°.

Hunter, Sir William Wilson. *A Brief History of the Indian Peoples...* Twenty-third edition, etc. *Oxford*, 1903. 8°.

Ibn Thofaïl. *Hayy Ben Yaqdhân. Roman philosophique d'Ibn Thofaïl. Texte arabe publié d'après un nouveau manuscrit avec les variantes des anciens textes et traduction française par L. Gauthier.* *Alger*, 1900. 8°.

Jack, R. Logan. *The Back Blocks of China. A narrative of experiences among the Chinese, Sifans, Lolos, Tibetanos Shans and Kachins between Shanghai and the Irrawadi.* *London*, 1904. 8°.

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———. *Essai sur la constitution morphologique de la tête de l'insecte.* *Paris*, 1899. 8°.

———. *Études sur les fourmis, les guêpes et les abeilles. Note 14. Rapports des animaux myrmécophiles avec les fourmis.* *Limoges*, 1897. 8°.

———. *Observations sur les guêpes.* *Paris*, 1903. 8°.

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Jivanji Jamshedji Modi. The Ancient Irānians according to Herodotus and Strabo. A comparison with the Avesta and other Parsee books. *Bombay*, 1904. 8°.

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Joret, Charles. Les Plantes dans l'antiquité et au Moyen âge. Histoire, usages et symbolisme, etc. *Paris*, 1904. 8°.

Jump, Captain R. Views in Calcutta. *London*, 1837. 4°.

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Kumait. Die Hāšimijjät des Kumait. Herausgegeben, übersetzt und erläutert von J. Horovitz. *Leiden*, 1904. 8°.

Lee-Warner, Sir William. The Life of the Marquis of Dalhousie. 2 vols. *London*, 1904. 8°.

Lodge, Edmund. Portraits of Illustrious Personages of Great Britain...with biographical and historical memoirs of their lives and actions. Text, 4 vols. Plates, 1 vol. *London*, 1823-25. 4°. & fol.

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Loti, Pierre, pseud. [i.e. Julien Viaud]. Vers Ispahan. Cinquième édition. *Paris*, 1904. 8°.

Lübke, Dr. Wilhelm. Outlines of the History of Art...Edited, minutely revised and largely rewritten by R. Sturgis. 2 vols. *London*, 1904. 8°.

Ludwig, Ernest. The Visit of the Teshoo Lama to Peking. Ch'ien Lung's Inscription. Translated by E. Ludwig. *Peking*, 1904. 8°.

Presd. by the Translator.

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The second section focuses on the regular review of financial statements. It suggests that business owners should set aside time each week to analyze their income statements, balance sheets, and cash flow reports. This proactive approach helps in identifying trends, spotting potential issues early, and making informed decisions about the future of the business.

The third part of the document addresses the role of technology in modern accounting. It highlights how accounting software can streamline processes, reduce errors, and provide real-time insights into a company's financial health. However, it also cautions against over-reliance on technology, advising that users should understand the underlying principles and have a backup plan in case of a system failure.

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JOURNAL
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ASIATIC SOCIETY OF BENGAL

New Series.

Vol. 1.—1903.



*Four new Copper-Plate Charters of the Somavaṃśī Kings of Kosala
(and Kaṭaka?).—By GANGA MOHAN LASKAR, M.A.*

These four charters, each consisting of three copper-plates, were sent a few months ago from the Pāṭnā State in the Central Provinces to the Asiatic Society of Bengal, and the task of deciphering them was entrusted to me. They form an addition to the series of six charters of the Somavaṃśī Kings edited or re-edited by Mr. Fleet in the *Epigraphia Indica* (Volume III, pages 323 to 359). Four of the published charters were granted by Mahā-Bhavagupta I, one by Mahā-Sivagupta and the last by Mahā-Bhavagupta II. Of the four new charters one belongs to the first and the remaining three to the second of these kings. Thus we now possess five land-grant charters of Mahā-Bhavagupta I, four of his son Mahā-Sivagupta and one of the latter's son Mahā-Bhavagupta II. A copper-plate charter granted by Puñja, a feudatory chief under Mahā-Bhavagupta II, in the 13th year of the latter's reign, has been edited by Dr. Kielhorn in *Epi. Indica*, Volume IV. (page 254, &c.).

The language and forms of expressions of the new charters are much the same with those employed in the old ones. The characters in which they are inscribed are the same. They do not bring out any new important facts about the history or the identification of the grantors, except the names of the villages granted and a few other minor details scarcely worthy of notice. The historical and palæographical remarks made by Mr. Fleet on the old records apply equally to the new ones. Yet a few words may not be unnecessary to serve as an introduction to the account of the newly-discovered copper-plates given in the following pages.

Mr. Fleet calls his charters as A, B, C, D, E and F; the new ones may be named G, H, I and J respectively. These ten charters, together with the one granted by Puñja, are the only records that we possess of this dynasty. They disclose

to us the names of four successive kings, *viz.*, (1) Śivagupta, (2) Mahā-Bhavagupta I *alias* Janamejaya, (3) Mahā-Sivagupta *alias* Yayāti, and (4) Mahā-Bhavagupta II *alias* Bhimaratha. Each of the first three was the father of his successor. They call themselves as members of the Somakula (lunar race) and as the 'lords of the three Kalingas.' They grant lands in the different districts of the Kośala country. In the grants B, C and D, issued in the thirty-first year of his reign, Mahā-Bhavagupta is referred to by the title Kośalendra (lord of Kośala). Charter J is said to have been written by a clerk of the office of the 'minister for peace and war' of the Kośala country. These facts prove beyond doubt that these kings ruled over the Kośala country, or at least a part of it. About five of the copper-plate charters were found in the Native State of Pāṭnā in the Central Provinces, and the remaining five in the neighbourhood of Kaṭaka (or Cuttuk). The charters of Mahā-Sivagupta and his son are issued from Vinitapura and Yayātinagara, towns or a town on the Mahānadi river. The village granted by the charter E is said to be situated in Dakṣiṇa-Tosalā* which may be a mistake for Dakṣiṇa-Kosalā or Southern Kośala. These facts show that it was Dakṣiṇa-Kosalā (or southern Kośala), identifiable with the south-eastern parts of the Central Provinces, which was included in the kingdom of these kings.

Mr. Fleet thinks that these kings ruled over Orissa also and had their capital at Kaṭak (Cuttack), and that both Vinitapura and Yayātinagara, the issuing places of the charters of Mahā-Sivagupta and his son, were identical with it. His view is based upon the word "Vijaya-kataka," which is applied to the issuing places of Mahā-Bhavagupta I's charters. He considers it to be a proper name denoting the modern town Cuttuk. The collocation of words in which the term occurs would suggest another meaning. The expressions **दुस्वीनसमावसितबीमनो विजयकटकात्** and **चारामसमावसित-**

* The word Tosali as the name of some country in or near Orissa is as old at least as the third century B.C. The two separate edicts of Asoka found in the version of Dhauri in Orissa are addressed to the officials at Tosali. The expressions "Ubhaya Tosalyām" (*i.e.*, in both divisions of Tosali) and "Dakṣiṇa Tosalyām Frāṅga (doubtful) viṣaye" (*i.e.*, in the Frāṅga viṣaya or district in Southern Tosali) occur in an old copper-plate grant found in some Native State in Orissa. It is written in the old Gupta characters and cannot be of a date later than the 5th Century A.D. It is clear from the above that Tosali was a country very near to, if not comprised in, the possessions of the Somavamśi kings under notice. So we cannot be free from doubt when we take Dakṣiṇa Tosalā as a mistake for Dakṣiṇa Kośala (Southern Kosala). Only two small fragments of the plate mentioned above were found. The inscription was very sadly damaged. The name of any king could not be found. The few words that could be satisfactorily deciphered convinced me that it was certainly a land-grant charter. A seal was received with the above fragments. It was circular in shape and had a diameter of two-and-a-half inches. One face of it contained in its upper half a female figure, seated on a lotus, with two elephants (one on each side) having their trunks up-lifted over her head. This emblem is similar to that found on the seals of the Somavamśi kings under notice. There was a line of writing below the emblem, but it was too much damaged to be deciphered.

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श्रीमती विजयवन्ध्याय would, as they stand, mean 'from the glorious camps of victory pitched at Mūrasīma and Ārāma, respectively,' or "from the camps of victory of the glorious king (श्रीमती) who was residing at Mūrasīma and Ārāma, respectively." Mr. M. M. Chakravarti, who assigns the charters to the 12th century rather than to the 11th as done by Mr. Fleet, objects to Mr. Fleet's interpretation of the term and considers that these kings could not rule in Orissa, for at that date kings of the Gaṅgavāṃśa dynasty were masters of that province.

The title Tri-Kaliṅgādhipati (lord of the three Kaliṅgas) used by these kings requires a little consideration. The word Tri-Kaliṅga is a vague term to us. But it seems to be sure that it included the whole of Kaliṅga with at least a few districts in the neighbourhood. Now Kaliṅga was a strip of country between the sea-coast and the Eastern Ghats. It extended to about Vizagapatam in the south. Its northern limit is said in the Mahābhārata to be the river Vaitarani (mod. Byterni), which river and the Kaliṅga people the Pāṇḍavas are described to have reached at the same time on their southward progress from Bengal in the course of pilgrimage. According to this account, Kaliṅga would include a considerable portion of Orissa. But the limits of countries fluctuated from time to time and there is no certainty that the same river was the northern boundary of Kaliṅga also at the time of the inscriptions under notice. Be that as it may, we find in these inscriptions some points which would indicate that Kōśala was included in the countries known as Tri-Kaliṅga (or the three Kaliṅgas). The grantors of these charters have the title Tri-Kaliṅgādhipati attached to their names, but not the title Kōśalendra (lord of Kōśala), although they were undoubtedly the masters of the Kōśala country. Indeed, by the latter title Mahā-Bhavagupta I is referred to in charters B, C and D. But this title is not used along with their names nor is it joined to the title Tri-Kaliṅgādhipati, which is almost invariably prefixed to their names. This seems to show that the title Tri-Kaliṅgādhipati was thought sufficient by these kings to imply their possession of Kōśala also. It is therefore probable that Kōśala, (i.e., Southern Kōśala) was included in Tri-Kaliṅga (three Kaliṅgas). Thus we see that they possessed at least a part of Tri-Kaliṅga and therefore the title Tri-Kaliṅgādhipati was not altogether an honorific one as thought by Mr. M. M. Chakravarti. I do not mean to say, however, that the whole of Tri-Kaliṅga was under their rule. That these kings held sway over what is now called the Pāṭnā State is certain. Two of the *viṣayas* or districts are called Telātaṭṭa and Oṅgātaṭṭa (see Table). These names imply that they were on the banks of the Telā (Mod. Tel) and the Oṅgā (Mod. Ong) river. These rivers flow across the Pāṭnā State into the Mahānadi and are found on the maps. Hence the Pāṭnā State or a considerable part of it formed part of their kingdom.

If Mr. Fleet's identification of Vintapura and Yayātinagara with the town of Kaṭak (Cuttuk) be correct, we may notice this fact. The issuing places of Mahā-Bhavagupta I's charters are

described as विजय वरुण ! The charters granted in the 8th and 9th years of his son Mahā-Sivagupta (Yayāti) are issued from Vinīta-pura; while the charters granted in the 24th and the 28th years of the latter's reign and the one granted by his son are issued from Yayātinagara. Taking Mr. Fleet's view to be correct, we may say that Mahā-Sivagupta, who was otherwise called Yayāti, changed the name of his capital and called it after his own name as Yayātinagara ('city of Yayāti'), and his son also continued the new name.

No grants of Sivagupta, the first king, has come down to us. He is not called Trikalīngādhipati, nor is the word Mahā (the Great) prefixed to his name. This shows that the powers and possessions of this dynasty were increased by Mahā-Bhavgupta I. His son Mahā-Sivagupta is said in one of the eulogistic verses to have defeated Ajāpāla (a king probably) in battle and to have captured thirty-two big elephants. From the third plate of Charter H, which is the worst executed of the charters, it appears that he defeated the *Cedis* and devastated their country (Ḍahālā).

I have made a tabular abstract of the whole series of ten charters. This will facilitate their comparative study and will save the trouble of going through the records themselves. The abstract is appended with this paper.

Some Details common to the new Charters (G, H, I, and J).

As already stated, they were found somewhere in the Native State of Pātṇā attached to the Sambalpur district in the Central Provinces. Each charter consists of three plates strung together by a thick ring, the ends of which are joined in a circular seal. The seal bears in relief a seated female figure with two elephants with uplifted trunks. Other details of the seals cannot be well distinguished owing to the rust that has accumulated upon them. The inscriptions are on both sides of the middle plate and on the inner sides of the first and the third plate. In J, the inscription extends to the outer side of the third plate. The characters employed are Nāgari of the northern type and belong to that particular variety of it to which the name of Kuṭila has come to be applied. The engraving is usually deep and legible; the letters do not usually show through on the opposite sides of the plates. The language employed in these records is Sanskrit; and except for the benedictive, imprecatory and eulogistic verses, they are generally in prose throughout. A point of orthography common to all these records is the use of *v* for *b*.

G.—Pātṇā Copper-Plate Grant of the 6th year of Mahā-Bhavgupta's reign.

The plates, the ring and the seal together weigh 2 seers and 12½ chhataks (i.e., a little more than 5½ lbs.). Each of the plates measures about 7 $\frac{7}{8}$ " by 5". The ring is about half an inch in

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thickness and 4" in diameter. The seal is 1½" in diameter. In relief on a countersunk surface it shows a seated female figure, perhaps of the goddess Lakṣmī, with two elephants. The plates are almost smooth; only the middle one and a side of another have their ends raised into rims to protect the writing. The inscription, which is deep, is in a state of perfect preservation. Although the engraving is deep, the letters do not show through on the reverse sides of the plates as the latter are substantial. The characters are 'Kuṭīla.' They include forms of decimal figures for 6, 13 and 5 in lines 42, 43 and 46 respectively.

The *avagraha* does not occur in this record. Final forms occur of *t* in *Kaṭakāt* (line 1), *vaset* (line 24), *dadyāt* (line 26), *Samvat* (line 42); and of *n* in *ādin* and *sarvān* (line 7), in *etān* and *pārthivendrān* (line 37). The language is Sanskrit, and except for the benedictive and imprecatory verses from lines 20 to 40, the whole record is in prose. The rules of Sandhi are neglected in several places. There are several spelling mistakes which must have been due to the Kāyastha (or clerk), e.g., कुपली, उपविष्ट, the use of *ū* for *u* and several others. The average size of the letters is about ⅔ of an inch. *V* is used for *b* throughout. *R* is used for *l* in *pravarggayanti* in line 27.

This charter is the second of the two (A and G) issued in the 6th year of Mahā-Bhavagupta's reign. In lines 16 and 17, the village granted is said to have been made revenue-free (अन्वरीकृत); yet in the concluding two lines a nominal revenue of five silver coins a year seems to be fixed as the king's share. The charter is moreover called in line 45 to be a revenue-charter (Kara-Sāsanaṃ). Charter A also conveys lands subject to a similar yearly payment. In lines 19 and 20, we find the expression "*prativarṣa-dātavya-rūpyakāṣṭapalakaraḍānaṃ viniscitya*."

Abstract of the Contents of G.

From the victorious camp located at Murasima [or from the victorious (city of) Kaṭaka]—

[ll. 1-4] The most devout worshipper of (the god) Maheśvara, the Paramabhaṭṭāraka, the Mahārājādhirāja, the ornament of the Somakula, the lord of the three Kalingas, the Parameśvara, the glorious Mahā-Bhavagupta-rājadeva, who meditates on the feet of the Paramabhaṭṭāraka, the Mahārājādhirāja, the Parameśvara, the glorious

[ll. 4-5] Sivaguptadeva, ["being in residence at Murasima," (this is to be put here if the interpretation of the description of the place of issue given above in the 1st line of the Abstract be objected to)], being in good health and having done worship to the Brāhmanas of the Pāsitalā village in the Potā district (viṣaya),

[ll. 5-8] issues this command to the cultivators and other inhabitants of the village as well as to all the dependents of the king who may be living from time to time in that district, such as the Samāhātṭas, &c.

[ll. 8-18] "Be it known to you that for the increase of the religious merit and glory of our (दीर्घ मातापितृः) *godly parents* as well as of our own selves, this village,—with everything included within its four boundaries, with its hidden treasures and deposits, with the freedom from all lets and hindrances, with the power to receive all extra cesses, with its ditches and deserts, with the exemption from the entrance into it by regular and irregular troops—is granted by us with libations of water, after being made revenue-free—to be enjoyed as long as the moon, the stars, the sun and the earth endure,

[ll. 11-14] to Bhaṭṭaputras (Sri) Keśava and (Sri) Apya, sons of Bhaṭṭa Dāddi, belonging to the Kauśika *gotra*, with the *pravaras* Audala, Devarāta and Viśvāmitra, students of the Kāpva *sākhā*, immigrants from Kommāpīra and inhabitants of Loisrgā.

[Ll. 17-18] Knowing this you should live in happiness, rendering unto them (the donees) the taxes, gold and other shares of their enjoyments.

[Ll. 18-40.] In these lines are contained the mandate to future kings for the preservation of the grant and the usual imprecatory and benedictive verses (for which see the translation of J.). [Ll. 40-46]. This charter was written by Kāyastha Koighoṣa, son of Ballabha-ghoṣa and a writer attached to the office of the Mahāsāndhivigrahin Malladatta, son of Dhāradatta, on the thirteenth *tithi* of the bright fortnight of the month of Kārtika in the sixth year of the victorious reign of Paramabhaṭṭāraka, Mahārājādhirāja, the Parameśvara, the glorious Janamejayadeva. Or (dated) in figures, Saṃvat 6, Kārtika sudi 13. This revenue-charter is granted after the fixing of the yearly revenue as five silver coins.

H.—Pāṭṇā Copper-Plate Grant of the 8th year of (Yayāti) Mahā-Sivagupta's reign.

The weight of the plates, the ring and the seal together is 3 seers and 6 chhataks (or about 7lbs). Each of the plates measures 8" by 5½". The ring is 4½" in diameter. The usual device on the seal is visible. The interiors of the letters show marks of the working of the engraver's tools. The engraving is deep; but it has been done with extreme haste and carelessness, so that many letters and sometimes whole words have been omitted through mistake. The record is full of spelling mistakes and other gross inaccuracies. The material is very soft; so that the edges of the engraved lines have been pressed up considerably above the surface of the plates. For these reasons it has not been possible to read the record completely and in certain parts, especially towards the end, the meaning has remained obscure. The characters include decimal figures for 8 and 13 in lines 39 and 40 respectively. The *avagraha* occurs in यशोभिहववे in line 13.

Abstract.

It is issued from Vinitapura. The place of issue is mentioned in the words (Vinitapurāt Kaṭakāt), which incline one to Mr. Fleet's

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view about the identification of Vinitpura with Cuttak; for the word 'Katakāt' looks as if it were in apposition with Vinitapura. The words may, under this view, be translated as "from Vinitpura, which is Kataka."

This inscription purports to convey lands on the northern part of the Dāsānariya river (or the river of the Dāsārṇa country), belonging to the village Talakajja in Sanulā (or Sanrlā) *Viśaya* (district) in the Kōśala country—to a Brāhmaṇa, named Kāmadeva, grandson of Harṣa and son of Narasiṃha, an immigrant from Mādhdhila and a resident of Jalajajda in Kōśala, having the *pravara*s Gotrapa, Kasyapa, Vatsa and Naidhruva, and a student of the Mādhyandina *Sākhā* of the Vājasaneyya (Sapthitā).

Lines 15-36 contain the usual injunction to future kings with the benedictive and imprecatory verses about the merits of the preservation and the demerits of the confiscation of granted lands.

Lines 36-41 tell us that it was written by Uccavanāga (or Utsavanāga?), the *Utthitāsanti* (?), son of Samamphenāllava (?), by the command of the *rāṇaka* Dhāradatta, the Mahā-Sāndhivigrahin, in the 8th year of the victorious reign of Yayātideva, and that it was engraved by Viññāni Mādhdhava, son of Vāsu.

Lines 40-42 contain a verse setting forth the transitoriness of life and its pleasures and enjoining the preservation of the good works of others. The next lines are very obscure. They speak of a powerful Kosala king of the Somavaṃśa (referring probably to Mahā-Sivagupta himself) who defeated probably the *Cedis* (बौद्यान् may be a mistake for वैद्यान्). The last two words of the record speak of the devastation of some place, probably *Dāhala* or the *Cedi* country ("दहणा विजनाचकार "made Dahāṇā or Dāhala uninhabited"). The same king probably was the author of the devastation.

I.—Pāṇā Copper-Plate Grant of the 24th year of Yayāti-Mahā-Sivagupta's reign.

Each of the plates measures $8\frac{1}{2}$ " by $6\frac{1}{2}$ ". The ring is $5\frac{1}{4}$ " in diameter. The diameter of the seal is $2\frac{1}{4}$ ". It contains the usual female figure. The weight of the plates, the ring and the seal together is 4 *seers* and 5 *chataks* (or nearly 9lb). The characters includes decimal figures for 24 and 5 in line 62. The *virāma* occurs in चारान् (l. 12), नखान् and बभरान् in line 13, and in वडभादीन् in line 24. It is mistakenly omitted in रतान् and श्चान् in lines 56 and 57 respectively. Final forms occur of *n* in प्रवाचान् (l. 18) रवान्, संज्ञान् (l. 19) and करौश्चान् (20); and of *m* (म्) with a *virāma* below in अक्षीरितम् in the last line. The *avagaha* occurs wrongly in जिनाऽजापाचम् in line 19 and correctly in पुष्यवसोऽभिहवने in line 38. The average size of the letters is $\frac{3}{8}$ of an inch. As for the orthography, we may notice the use of ळ (ॳ) for *anusvāra* in चतुर्विंशति

in line 61 and the use of *n* (न) for *anusvāra* in अन्व in line 9. *V* is used for *b* as usual in these records.

The wordings of the present record are almost identical with those of J. Both the donor and the donee are the same persons with those in charter J. Both these charters were issued from the same place Yayātinagara. The only difference lies in (1) the names of the villages granted, (2) the names of the writers and engravers and (3) in the dates. The present charter does not contain the verse in praise of the Sāndhivigrahin (who is however a different person here) which is found in J toward the close.

This charter purports to convey the (lines 25-26) village of Delādell in the Telātāṭṭa viṣaya in the Kosala country to Bhaṭṭa-Mahodadhi.

[Ll. 59-64].—"This charter was written by the *Kāyastha* Tathāgata, a writer belonging to the office of the Mahāsāndhivigrahin, the *Rāṇaka* Dhāradatta, on the fifth *tithi* of the bright fortnight of the month of Aṣāḍha in the twenty-fourth year of the prosperous and victorious reign of.....the glorious Yayātideva." It was engraved by *Vijñāni* Vāsuka.

For the translation of this record, reference is made to the translation of J, with which it is identical in almost all parts.

J.—Pāṭṇā Copper-Plate Grant of the 28th year of Yayāti-Mahā-Sivagupta's reign.

Each plate measures $9\frac{1}{2}$ " by 7." The ring is slightly above $\frac{1}{4}$ " in thickness and is $4\frac{3}{4}$ " in diameter. The diameter of the seal is $2\frac{1}{2}$ ". It contains the usual female figure, etc. The weight of the the whole is 4 *seers* and 5 *chataks* (or about 9 lbs). The inscription extends to a portion of the outer side of the third plate. The average size of the letters is about $\frac{3}{8}$ ". The engraving is good and fairly deep; but the plates being substantial the letters do not show through on the reverse sides, except very slightly on the outer side of the first plate. Final forms occur of *n* (न) in नौनाम् (line 14), प्रवाचाम्, कुषाम्, —रवाम् (line 22), करीमाम् (line 24), रवाम् (line 63) and-वाम् (line 64) and of (*m*) *m* in उन्मीरितम् (line 75), in which last instance the *virāma* is put below it.

The final form of *t* (त) is found in the following ligatures:— तौ (line 12), त्त् (in line 18), त्त (in line 24), त्त in (line 73). The *virāma* occurs in चारात् (112); while in several cases it has been omitted through mistake: e.g., in भादौम् (line 32), तत्ताम्, ननरात् (line 13) and दित् (line 14). The *avagraha* occurs incorrectly in अित्वाऽऽपाम् and correctly in राव्येऽऽविर्भनिने (line 73). As regards the orthography, we may notice that नाम् is written for नात्, and विवृत्तम् for विवृत्तम्। The use of *v* for *b* is usual.

As this record is the longest of the four charters under notice, I give its full translation, to which reference is made for the meaning of the rest.

FULL TRANSLATION OF J.

[L. 13] Om Hail! From that glorious town of Yayātinagara,—

[L. 1-4]—where the enjoyment of love is being continually intensified and still more intensified by the close embraces (of lovers), by which fatigue is removed, in which hissing sound often appears and in which hairs often stand on their ends, although such enjoyment suffers interruptions as the ardent young couple show their skill in the various processes of conjugal enjoyment with their eyes dilated (with excitement) and with their minds subdued and fascinated by amorous thoughts;

[Ll. 4-7.]—where, even in the midst of quarrels arising from jealousy, lovers, beaten by lotuses from the ears of women who have cast the beauty of the celestial damsels into shade by the greatness of their endless and peculiar charms, have all their mental anguishes roused to action by the entrance of the sharp arrows of Cupid, with their hairs standing on the ends (*lit.* sprouting up) on account of the sprinkling of the drops of sweat (from the persons of the objects of their love);

[Ll. 7-11.]—where, at the tops of houses beautifully white-washed, the places of assignation of unchaste women and their pearl ornaments were whitened by the clusters of rays issuing from the club-like tusks of very lofty elephants—the rays which rendered the autumn moon useless in the matter of dispelling darkness;

[Lines 11-13] (and) where the fatigue of the women enjoying conjugal caresses with ardent attachment is removed by the breezes surcharged with the particles of water sent up by the breaking and swelling of the high waves of the Mahānadi.

[Lines 13-16] There was on the earth a beautiful king named Janamejaya, who had a pure and mild appearance and a lotus-like face, who had subjugated by the force of his arms all his enemies, and whose spotless fame, well known throughout the three worlds, covered the eight quarters like a canopy.

[Lines 16-18] From him sprang King Yayāti, whose glory was sung in all the three worlds, who defeated his enemies with contempt as it were, and whose sword had its sharp edge made rugged with the pearls coming out of the foreheads of the elephants rent asunder by it;

[Ll. 18-21.] whose sword rent asunder with its point the foreheads of a large number of elephants, from which heaps of pearls came out and adorned the bosom of the damsel of the earth in every battle; the dusts of whose lotus-like feet, as pure as the rays of the gems in the head-dresses of kings constantly bowing down at his doors, assumed, through equality, the lustre of these (*i.e.* the gems);

[Ll. 21-24.] who, having defeated Ajāpāla in battle, astonished the heavenly damsels by capturing alive with a smiling face, thirty-two big elephants, named Kāmadeva, etc., whose riders had been killed,—elephants who had sharp and huge tusks and whose temples were discharging *ichor* and therefore abounded with flocks of greedy bees getting intoxicated (by draughts of the fragrant fluid).

[Ll. 26-29.] The most devout worshipper of (the god) Maheśvara, the Paramabhattachāraka, the Mahārājādhirāja, the Parameśvara, the ornament of the Somakula, the lord of the three Kaliṅgas, the glorious Mahā-Sivagupta-rāja-deva, who meditates on the feet of

[Ll. 24-27] the most devout worshipper of (the god) Maheśvara, the Paramabhattachāraka, the Mahārājādhirāja, the Parameśvara, the ornament of the Somakula, the lord of the three Kaliṅgas, the glorious Mahā-Bhavaguptarājadeva,

[Ll. 29-33] being in good health and having done worship to the Brāhmins of the district at the village of Lluttarumā of Telātaṭṭa Viṣaya or district in Śaṇṇavati, issues a command to all the dependants of the king such as the *samāhatrs* (समाहृत),* the *sannidhātṛs* (सन्निधातृ), the *Niyuktādhikārikas* (नियुक्ताधिकारिक), the *Danḍapāśikas* (दण्डपाशिक), the *Piṣunas* (पिष्पुन), the *Vetrikas* (वैत्रिक), the *Avarodhajanas* (अवरोधजन), the *Rāṇakas* (राणक), the *Rājaballabhas* (राजबल्लभ) &c. (in the following words) :—

[Lines 33-43]. “ Be it known to you that for the enhancement of the religious merit and glory of ourselves and our parents, this village, extending to its four boundaries—with its hidden treasures and deposits, with the right to fines for the ten offences, with the freedom from all lets and hindrances, with the right to mango-trees and honey-combs, with its ditches and barren lands, with its lands and waters, with the privilege that it shall not be entered into by the regular and irregular troops—is, by a copper-plate charter, granted by us as revenue-free, with libations of water, to be enjoyed as long as the moon, the stars, the sun and the earth exist,

[Lines 37-40] to Bhaṭṭa Mahodadhi, son of Siddheśvara and grand-son of Parameśvara, an inhabitant of Ntaraḍi in the Lāvāḍā district (*viṣaya*), an immigrant from Kāsili in the Srāvasti Mandala, a member of the *Kauśika gotra*, with the *pravaras Devarāta*, Audala and Viśvāmitra and a student of the Gautama *śākhā*.

[Lines 43-44]. Being aware of this, you should dwell in happiness rendering unto him the rents and other shares of enjoyment due to him.”

* समाहृत—(Lit. those who collected). Prob. purveyors or collectors of revenue.

सन्निधातृ—Those whose duty was to keep near. Prob. Ushers.

नियुक्ताधिकारिक—Those in charge of the Appointment Department.

दण्डपाशिक—Those whose duty was to punish the wrong-doers.

पिष्पुनक—Spies.

वैत्रिक—Lit. an officer who held a cane. Prob. Chamberlain.

अवरोधजन—Officers employed at the harem.

राणक—Probably a title of high distinction.

राजबल्लभ—Favourites of the king.

[N. S.]

This my grant should be preserved like their own grants by future kings also, from a regard for religious laws and my own earnest request.

L.46. Thus it is said in religious books :—

[Lines 48-49]. Land has been given by many kings commencing with Sagara ; whoever at any time possesses the earth, to him at that time the reward accrues.

[Lines 49-50]. The giver of land enjoys happiness in heaven for 60,000 years ; while both the confiscator and the person who acquiesces in so doing go to hell.

[Lines 51-52]. Gold is the first offspring of fire ; the earth is the daughter of Viṣṇu ; and the cows are born of the sun. He who gives gold and cows and lands, by him, by that act, are given all the three worlds.

[Lines 52-54]. Fathers (in the world of the dead) clap their hands upon their arms, and grand-fathers leap from joy, saying, “ A giver of land has been born in our family ; he shall become our deliverer.”

[Lines 54-55]. Both the giver and the receiver of land are doers of meritorious works and will certainly go to heaven.

[Lines 55-56]. A confiscator of (gifted) lands is not purified even by the excavation of a thousand of tanks, by the performance of a hundred of *vājapeya* sacrifices and by the gift of a crore of cows.

[Lines 56-57]. He who steals a piece of gold or a cow or even half-a-finger's breadth of land is consigned to hell till the destruction of the world.

[Lines 57-59]. That ignorant fool who confiscates or causes the confiscation of lands is, being tightly bound in the fetters of Varuṇa, reborn of lower animals.

[Lines 59-60]. He who confiscates lands given by himself or others becomes a worm in the ordure and stinks there with his ancestors.

[Lines 61-62]. The sun, Varuṇa, Viṣṇu, Brahmā, Soma, the god of fire and the great god Śūlapāṇi welcome the giver of land (as he goes to heaven).

[Lines 62-63]. Rāmabhadra again and again requests all the future kings, saying, “ This bridge of religion is common to all men ; it is to be observed by you in all times.”

[Lines 64-66]. Thinking that wealth as well as human life are as unstable as a drop of water on the leaf of a lotus and understanding all that has been said above, men should not destroy the good works of others.

[Lines 66-69]. He who surpassed the preceptors of the kings of the gods and of the demons (*i.e.*, Vṛhaspati and Śukrācārya) in wisdom and pride, who bore with perfect ease the heavy burden of the state affairs imposed by the king and who had both policy and prowess as his dear and constant friends,—that fortunate person of the name of (Śrī) Singhadatta (Siphadatta) was the holder of the post of “ the minister of peace and war.” (सुनिविद्यपद)

[Lines 69-71]. This charter, written by Kāyastha Śūryasena

belonging to the office of (or a servant of) the 'minister of peace and war' of the Kosala country, is to last as long as the moon, the sun and the stars endure.

[Lines 71-74]. On the fifth *tithi* in the bright fortnight of the month of Bhādrapada in the 28th year of the victorious reign of the most devout worshipper of (the god) Mahēśvara, the Mahārājādhirāja, the Parameśvara, the ornament of the Somakula (lunar race), the lord of the three Kalingas, the glorious Yayāti-deva. Or, in figures, Saṃvat 28, Sudi 5.

[Lines 74-75]. Engraved by *Vināli* (Vijñani) Madhumathana.

[Transcriptions of all the following charters are from the original plates.]

G.

FIRST PLATE.

- [1] ॐ सक्ति । मुरसिमसमावासितश्रीमतो विजयकटकाव् पर[-]
मभ[-]
- [2] द्वारकमहाराजाधिराजपरमेश्वरश्रीशिवगुप्तदेवपादानुध्यात पर[-]
ममा[-]
- [3] ईश्वर परमभद्वारकमहाराजाधिराजसोमकुलतिजकट'ककिङ्गा-
धिप[-]
- [4] ति परमेश्वरश्रीमहाभवगुप्तराजदेवः ।^१ कुष'की ।^२ पोताविषय[-]
प्रतिबद्धपा[-]
- [5] सितजाग्रामे ब्राह्मणां^३ स'पूज्य तत्प्रतिनिवासिकू'दूम्बिनजपदा[-]
सहिषयो[-]
- [6] यथयाकालाध्युसिनः समाहृत सन्निधात दाखपाशिक चाट भट[-]
- [7] पित्रून्^४ वेजिकावरोधजनराजवल्गभादीन् सर्वान् राजपादोपजी[-]
- [8] विनः समाज्ञापयति विदितमस्तु भवतां यथास्माभिरय[-] ग्रामः
- [9] सनिधिः सोपनिधिः सर्वबाधाविवर्जितः सर्वोपरिकरकरादानस[-]
- [10] हितः सात्ममधुकः समत्तो^५ शरः प्रतिनिधिद्विचपाटभटप्रवेशस्तु[-]

N.B.—The letters and signs enclosed within brackets [] are supplied by me.

¹ Read पि. ^२ This mark of punctuation is unnecessary.

^३ Read कुषकी. ^४ This mark of punctuation is unnecessary.

^५ Read ब्राह्मणान्. ^६ Read संपू. ^७ Read कुट. ^८ Read स.

- [11] ^[N. S.] सिमापर्यन्तः क्षौकिकप्रकगोत्राभ्यां । दलदेवराज^१विन्धामिचप्रव[-]
 [12] राभ्यां कायवशाखाध्यायिभ्यां कोन्मापिरविनिर्गताभ्यां जोइ[-]
 [18] शृङ्गावास्त्याभ्यां भट्टपुत्रश्री[-]

SECOND PLATE (a).

- [14] केशवश्रीषय्याभ्यां^[1] भट्टदाहीरू^३ताभ्यां^[1] सलिलधारा^४पूरः[-]
 [15] सरमाचन्द्रतारका^५र्कितिसमकाकोपभोगार्थः श्रीदेवमाता[-]
 [16] पित्रोरात्मनश्च ^६पूष्ययशोऽभिरुद्धवे ^७चाक्षशासनेनाकरोक्त[-]
 [17] त्व प्रतिपादित इत्यवगत्य समुचितभोगभागकरहिरख्यादि[-]
 [18] कमुपययद्भिर्भवद्भिः सुखेन प्रतिवस्तव्यमिति । भाविभिश्च भूष[-]
 [19] तिभिर्दत्ति^८रोयमस्तदीया धर्म्मगौरवादस्तदगुरोधाच ख[-]
 [20] दत्तिरिवालुपालनीया तथाचोक्त^[1] धर्म्मशास्त्रे ।

Here follow the usual verses, being thirteen in all. Twelve of these occur in Plate A (*see* Epi. Ind. III, p. 343), and for the remaining one, *see* transcription of Plate J, lines 56-57, सुवत् &c. The last of these verses end in the words कौतूह्यः विज्ञोक्तः ।

THIRD PLATE. [11. 36-46.]

- [40] कौतूह्यः विज्ञोप्या इति परमभट्टारकमहाराजाधिराजपरमेष्ठ[-]
 [41] र श्रीजनमेजयदेवस्य विजयराजे सम्बच्छरे^१ बडे ।^२ कार्त्तिक[-]
 [42] कमाससितपक्षत्रयोदश्यां यत्राङ्गतः सम्बत्^{१०} इ कार्त्तिक शुदि
 [48] १३ किखितमिदं शासनं महासान्निवियद्विऔमस्तदत्तश्रीधारद[-]
 [44] समुत्प्रतिवज्जकायस्थकोइधोवेख वस्तुभधोवसुतेन । प्रतिव[-]
 [45] र्भे चात्र शासने करपक्षरूप्यज्ञानि निरुक्त करशासनमिदं
 [46] दत्तं यत्र बज्ज ५

¹ Read श्री. ^२ Read न. ^३ Read सु. ^४ Read पु. ^५ Read पु.

^६ Read ना. ^७ Read रि. ^८ Read संवत्शरे. ^९ This mark of punctuation is unnecessary. ^{१०} Read संवत्.

H.*

FIRST PLATE.

- [1] 𑀓 खल्लि । श्रीविनि^१तपू^२रात् कटकात्पर[म]माहेस्^३रपरमभ[-]
- [2] द्दारकमहाराजाधिराजश्रीमहाभवगुप्तराजदेवपा[दा]नू^४ध्यायी ।
- [8] परममाहेस्^५र परमभद्दारकमहाराजाधिराजपरमेस्^६रसो[-]
- [4] मकू^७लतिक्कच्चिकिक्काधिपतिश्रीमहासि^८वगू^{१०}त्तराजदेवः
कू^{११}ह^{१२}
- [6] लोः^{१३} कोसकदेशे^{१४} । सगूलाविषयीय तक्कञ्ज्यामसन्वन्धी
- [6] तु^{१५}रदाग्नागरीयनदीसमेतभूमि खतुःशो^{१६}मयात्तिप्रे^{१७}
- [7] वतः ब्राह्मयान्सम्पूज्य च द्विषयीयः
- [8] निषिद्धघाटभटप्रवेशकस्य । गोत्रपक्कश्लपा^{१८}वत्सानैभ्रु[व]प्रव[-]
- [9] राय ।^{१९}वादश्रेणमध्यन्दिनश[र]खाध्यायी^{२०}ने । माध्वीकविनि[गं]ताय
- [10] कोसकजलजमुवास्तथाय । श्रीकामदेवनाम्ने । हर्षनस्रे न[-]
- [11] रसिंहसुताय [सजिक्कधारा] पू^{२१}रःसरमाचन्द्रतारकाह्वंक्षितिसम-
काणोपभो[-]
- [12] गार्धं मातापित्रोरात्मनस्वपुण्ययशोऽभिरुद्धये तावत्प्रासनेना[-]
- [18] करीकल प्रतिपादी^{२२}त इत्थवगत्य यथादीयमानकरहिरख[-]

* This record is quite full of mistakes and omissions. The short u is almost throughout expressed by the long one. In the footnotes only the most salient mistakes are corrected.

1 We have both the plain symbol as well as the letter for 𑀓.

2 Read लो. 3 Read पु for पू. 4 Read ख. 5 Read जु।

6 Read ख. 7 Read ख. 8 short n for long ū.

9 Read सि. 10 Read short u for long ū. 11 Read short u for long ū.

12 Read श. 13 Omit the *visarga*. 14 This sign of punctuation is unnecessary.

15 "तुर्" These two letters are doubtful, and may also be read नर, नर. 16 Read लो। 17 Should probably be corrected to न

18 Omit the sign for long ā. Probably the next word should be वात्स्य.

19 Should be वाजपयनीयमाध्यन्दिन. 20 Read सि. 21 Read पु.

22 Read दि.

SECOND PLATE (a).

- [14] भोगभागादिकं वदद्भोः¹ भवद्भिः सुखेन प्रतिवस्तथमिति । भावि-
मिस्वभू[-]
[15] पतिभिर्दत्तैरियमस्मदीया धर्मागौरवादस्मदनुरोधास्वदत्तैरि
[16] वानुपाकनीया । तथाचोक्तं धर्मशास्त्रे

Here occur the same thirteen verses as are found on Plates G and are referred to after l. 20 of the transcripts of G. Lines 16-35 are as full of spelling mistakes as the rest of this charter (H).

SECOND PLATE (b). [11. 28-40.]

- [85] परममाह[-]
[86] श्वरपरमभट्टारकमहाराजाधिराजपरमेस्वरसोमकुवति[-]
[87] लकचिकलिकाधिपतिश्रीमद्ययातिदेवराजस्य विजयराज्येसा²म्ब[-]
[38] त्सराहमे म³र्माशिरमासे शुक्लपक्षे त्रयोदश्या⁴मङ्के सम्बत्⁵ ८
[39] मार्गं शुदि १३ लिखितमिदं तावज्जासनं महासन्धिविद्यहिराज-
[40] कश्रीधारदत्तस्मा⁶वगतं । उत्ति⁷तासनीश्रीउच्छवयागस

THIRD PLATE.

- [41] मन्मोयाह्वयसुतेन । उत्किसि⁸ विद्वानो माधवेन¹¹ वासुसुते-
नेति । सम्बा
[42] दोजलजपर्यंजलाभाजीवितं मरयसन्ततिसंख्यं भोगसुक्तीरतिनां
[43] प्रविशोक्त्याः कौत्सयो ऋपतिभिर्नविशोप्या इतिः । सोभू ऋपः सो[-]
[44] मकुलाकभानुः स्वभावतुङ्गो निजपौरुषेण । यः कोसला
[45] पाजनाकौमुदिन्दु विजित्य चौद्यान्विततानलक्ष्याः । रामाह
[46] राशिदेपवद्भटान् सभटपेदिप्रभृतिन् ऋकुमिक

¹ Read द्विः. ² Omit the r-strokes. ³ Omit the r-strokes.

⁴ Read च. ⁵ Read संव. ⁶ Read मार्ग. ⁷ Read स्मा. ⁸ Read संवत्.

⁹ Read स्मा. ¹⁰ This is doubtful, probably द्वि is to be read. If so, the correct form here would be उत्तिनासनि- । ¹¹ Probably उत्कीर्णं विद्वानि वापवेन is correct; the word विद्वानो means an artist.

- [47] व्यान्तितश्रुतं रामः । सकण्ण्यबोरामइवाप्तसे
 [48] तुः । तस्मात्सुते विषुखिवाजक्षिष्ट । सकृगराजन्वोघटप्रथो
 [49] पट्टंखायजर्दुपुवत मन्यमनोदस्त्राडहायाविर्गना
 [50] चकार ।

N.B.—The transcription of the third plate of H is full of doubtful points here and there : in some places, they are altogether obscure. This plate, or rather the whole record, was very hastily and carelessly inscribed.

I.

CHARTER I.

PLATE I.

- [1] ॐ 'क्षन्ति प्रेमनिबद्धसुगममगसोः स्मारोभवच्छुषो
 [2] यूगोर्यत्र विचित्रनिर्भररतक्रीडाक्रमं तन्वतोः । विच्छिन्नो
 [3] पि कृतातिमात्रपुणकौराविर्भवत्सीत्कृतैराज्ञेष'म्ब[]पितम्ब[-]
 [4] मैः स्मररसः कामं मुञ्चुस्तायते । 'यत्राशेषविशेषरूप[-]
 [5] महिमापास्तापुरःकान्तिभिर्जातेर्ष्याकलहेष्वपि प्रशयिनः
 [6] कर्षोत्यचैस्ताडिताः । जायन्ते प्रविशच्छितस्मरश्चरप्रोत्थापि[-]
 [7] तान्तर्थाया[] स्यन्दिस्त्रेदजनावसेचनवशाग्निर्थातरोमा[-]
 [8] शुराः । 'सत्युत्तङ्गशरीन्द्रदन्तमुसकप्रोद्गासिरोचिच्छयै
 [9] ज्ञान्तध्वन्सु³निष्कणीकृतशरश्चन्द्रोदयैः सर्वदा [1] यत्रासी
 [10] दसतीजनस्य विशदं सुक्तामयं मखनं सङ्गोतास्यदमप्यतीवध[-]
 [11] वलप्रासादशृङ्गायतः । 'महानदीतुङ्गतरङ्गभङ्गा'स्मारोच्छ[-]
 [12] कण्ठीकरवह्निरारात् । यस्मिन्नतासक्तिमदङ्गनानां अमापनोदः
 [13] क्लिषते मखङ्गिः । तस्मात् औयथातिनगरात् । 'लोकत्रयप्रधि[-]
 [14] तमुभयशोवितानथ्याप्ताष्टदिकप्रसभनिर्जितवैरिर्गनाः । राजा

N.B.—The letters and signs enclosed within brackets [] are supplied by me.

¹ Read वै. ² Metre: Śārdūlavikrīḍita. ³ Read ध्वंसन. ⁴ Metre:

Upajati of Indravajrā and Upendravajrā. ⁵ Omit the sign of long ā.

⁶ Metre: Vasantatilaka.

- [15] मन्त्रं कुम्भमिति मन्त्रं चैः सोमः शरः शरः शरः शरः शरः शरः
- [16] ॥ विद्वान् विद्वान् विद्वान् विद्वान् विद्वान् विद्वान् विद्वान् विद्वान् विद्वान्

शरः शरः शरः शरः शरः शरः शरः शरः शरः शरः

- [17] शरः शरः शरः शरः शरः शरः शरः शरः शरः शरः शरः
- [18] शरः शरः शरः शरः शरः शरः शरः शरः शरः शरः शरः
- [19] शरः शरः शरः शरः शरः शरः शरः शरः शरः शरः शरः
- [20] शरः शरः शरः शरः शरः शरः शरः शरः शरः शरः शरः
- [21] शरः शरः शरः शरः शरः शरः शरः शरः शरः शरः शरः
- [22] शरः शरः शरः शरः शरः शरः शरः शरः शरः शरः शरः
- [23] शरः शरः शरः शरः शरः शरः शरः शरः शरः शरः शरः
- [24] शरः शरः शरः शरः शरः शरः शरः शरः शरः शरः शरः
- [25] शरः शरः शरः शरः शरः शरः शरः शरः शरः शरः शरः
- [26] शरः शरः शरः शरः शरः शरः शरः शरः शरः शरः शरः
- [27] शरः शरः शरः शरः शरः शरः शरः शरः शरः शरः शरः
- [28] शरः शरः शरः शरः शरः शरः शरः शरः शरः शरः शरः
- [29] शरः शरः शरः शरः शरः शरः शरः शरः शरः शरः शरः
- [30] शरः शरः शरः शरः शरः शरः शरः शरः शरः शरः शरः
- [31] शरः शरः शरः शरः शरः शरः शरः शरः शरः शरः शरः

1 Metre : Vasantatilaka. 2 Metre : Sragdhara 3 Read शरः शरः
 4 Read शरः शरः शरः as in J. 5 Read शरिका ।

PLATE II (b).

- [82] तः । चतुःसोमापर्यन्तः स्वाममधुकः सगर्तोवरः सजबस्य[-]
- [88] कः प्रतिनिविद्धचट्टभट्टप्रवेशः कौशिकगोत्राव देवरात[-]
- [84] शौदक्षविश्वामित्रप्रवराय गौतमशाखाध्यायिने आवस्तिम[-]
- [85] श्ले क्रासिनीविनिर्गताय चावडाविषय[]नरडिवास्तथाय
- [86] परमेश्वरमपत्रे सिद्धेश्वरसुताय भट्टश्रीमहोदधने उ[-]
- [87] दक्षधारापुरःसरं आचन्द्रतारकाक्षरं क्षितिसमंकाजोपभोगा[-]
- [88] र्थो मातापित्रोरात्मनश्च पुण्ययज्ञोऽभितुङ्गने ताम्बशास[-]
- [89] नेमाकरोक्तत्वं प्रतिपादित इत्यवगम्य समुचितभाग[-]
- [40] भोगकरहरिश्चादिप्रत्वायमुपनयद्भिर्भवद्भिः सुखे[-] गौ[-]
- [41] न वस्तुमिति [1] भाविभिश्च भूपतिभिर्दत्तिरियमस्मदीया धर्म-
- [42] रवादस्मदनुरोधाच्च स्वर्त्तिरिवानुपाकनीया [1] तथाचोक्तं धर्म[-]
- [43] शास्त्रे

N.B.—Here occur the usual verses, for which see lines 47-86 of the text of J below.

PLATE III.

- [59] परममाहेश्वर परमभट्टारकमहाराजाधिराजपरमेश्व[-]
- [60] र सोमकुलतिलक त्रिकुलिङ्गाधिपतिश्रीमद्यथातिदेवपादप्र[-]
- [61] वरुमानविजयराज्यचतुर्विंशतिरसम्बत्सरे^१ आषाढपुण्यपक्षे ति-
- [62] शौ पक्षस्यां यथाश्रेयापि सम्बत्^२ २४ आषाढ शुदि ५ विहित[-]
मिदं श्रु[-]
- [68] स्वं महासान्निवियहराजिकश्रीधारदस्तावमतेन महासान्निवियह-
- [64] चाबस्य तद्यामतेनेति विनाशि^३ वासुकेनो^४त्वरितम् ।

N.B.—The letters and signs enclosed within brackets [] are supplied by me.

^१ For देवरात शौदक्ष read देवरातोदक्ष. There is a sign above च, which may stand for the e- sign. ^२ Read चतुर्विंशति संवत्सरे । ^३ Read संवत्

^४ Read विनाशि. ^५ Read -श्रीवत् ।

J.

FIRST PLATE.

- [1] ॐ^१ २स्वस्ति प्रेमनिबद्धमुग्धमनसोः स्मारीभवच्चक्षुषो
[2] र्धुनो र्यत्र विचित्रनिर्भररतक्रीडाकाम[] तन्वतोः[।] विश्विप्रोपि
कृता [-]
[3] तिमात्रपुलकैराविर्भवत् सौतृह्वैराभ्येवैर्गणपितकृमैः स्मरर[-]
[4] सः काम[] मुञ्जस्तायते । ३यत्राशेषविले^४ ४रूपमहिमापाक्ता[-]
[5] मुरःकान्तिभिर्ज[]तेर्याकलहेव्वपि प्रथयिनः कर्णोत्पलै[-]
[6] स्नाङ्गिता[]जायन्ते प्रविशत्सत^५स्मरशरप्रोत्थापितान्तर्यथा[]
स्यन्दो[]^६
[7] खेदजलावसेषणवशात्त्रिर्यातरोमाङ्गराः । ७था^७त्युत्पृक्त[-]
[8] रीन्द्रदन्तमुसलप्रोद्गासिरोचिस्रथैर्ध्वान्तध्वंसन^८निष्क[-]
[9] षोक्तशरस्रन्द्रोदयैः सर्वदा [।] यथासौदसतीजनस्य
[10] विशदं मुक्तामयं मण्डनं सङ्गतास्यदमप्यतीवध[-]
[11] वलप्रासादप्रदङ्गायतः । महानदीतुङ्गतरङ्गभङ्गस्ना[-]
[12] रोच्छलत्सौकरवद्भिरारात् [।] यस्मिन्नताशक्तिमदङ्गानां अमा[-]
यनो[-]
[13] दः क्षिपते मरुद्भिः ॥ तस्मात् श्रीययातिनगरात् । १०लोकत्रयप्र[-]
[14] धितशुभ्यशोवितानद्याप्ताष्टदिक्प्रसभनिर्जितवैरिवर्गः ।
[15] राजा बभूव सुवि भावितभयसु^{११}र्त्तिःश्रीमान्सरोजवदनो जनमे[-]
[16] जयास्यः १२निर्दरितारिकरिकुम्भसमुद्रमुक्तमुक्ताफलप्रकरद[-]
[17] १३न्तरखड्गधारः [।] तस्मादन[]यत जगत् १४यगतकोर्त्तिहे[]जा[-]
विनिर्जित[-]

१ Represented by a symbol. २ Metre: शार्ङ्गविष्णोदित.

३ Metre: शार्ङ्ग विष्णोदित. ४ Read से. ५ Read प्रविशस्वित ।

६ Read कृति. ७ Upajāti of Indravajrā and Upendravajrā.

८ Read व for वा. ९ Read ध्वंसन । १० Metre: Sardūlavikrīdita.

११ Read कृति. १२ Metre: Sardūlavikrīdita. १३ Read न । १४ Read वव.

SECOND PLATE (a).

- [18] रिपुर्नृपतिर्यथातिः । 'यत्खङ्गायविपाटितद्विपघटाकुम्भस्य[-]
- [19] कादुक्कसन्मुक्ताजाणविभूषितं प्रतिरखं पृथ्वीवधूरःख्यलं । श्रम्ब[-]
- [20] ह[1]रनममराधिपशिरोरत्ना[]शुजाणामला[] । यत्पादात्मजरेखवः
सम[-]
- [21] तथा तद्रश्मिण्यीं दधः ॥ 'माद्यजो'जालिमालाकुलकरटपुटस्य[-]
- [22] न्दिदानप्रवाहान् सिन्दुरारक्तकुम्भान् 'श्रितपृथुजरदान् काम[-]
देवादि[-]
- [23] संज्ञान् जित्या⁵ ऽजापालमाजौ जनितसुरबधूविस्मयःस्मेरवक्त्रः स [-]
- [24] ह्रात्रिशतकरोन्म्रान् शरनिकरहृतारोहकानग्रहोद्यः ॥ परममा[-]
- [25] हेम्वर परमभट्टारक महाराजाधिराजपरमेश्वरसोमकुल[-]
- [26] तिलकत्रिकलिक्राधिपतिश्रीमहाभवगुप्तराजदेवपादानु[-]
- [27] ध्यातपरममहेश्वरपरमभट्टारकमहाराजाधिराजप[-]
- [28] रमेश्वर सोमकुलतिलकत्रिकलिक्राधिपतिश्रीमहाशिवगुप्त[-]
- [29] राजदेवः कुशलो । ⁶धस्यवत्यां तेजातट्टविषयीयङ्कुत्तहमा⁷
- [30] ग्रामे तद्विषयीयब्राह्मणानापूज्य समाहृष्टसन्निधाटनियू [-]
- [31] क्राधिकारिक दखपासि⁸कपिशुनवेत्रिकावरोधजनराण[-]
- [32] करानवस्तुभादीन् सर्वज्ञाजपादोपजोविनः समाज्ञापय[-]
- [33] ति विदितमस्तु भवतां यथास्माभिरयं ग्रामः सनिधिः सोप[-]
- [34] निधिः सदशापराधः सर्वबाधाविवर्जितः सर्वोपरिकरादा[-]
- [35] नसहितः ।⁹ चतुसोमापर्यन्तः साब्जमधुकः सगर्तोष [-]

SECOND PLATE (b).

- [36] र[]सजणस्यकः प्रतिनिधिद्वन्द्वभट्टप्रवेशः कौश्लि[-]
- [37] कगोत्राय देवरात¹⁰दौदकविश्वामित्रप्रवराय गौतमशा[-]

1 Metre: Sārdūlvikrīḍitam. 2 Metre vasantatilaka. 3 Read जो.

4 Read चित्त । 5 Read जिज्ञा. 6 This mark of punctuation is unnecessary. 7 Read य. 8 चि. 9 This mark of punctuation is unnecessary.

10 Instead of नजो read नौ ।

- [38] खाध्यायिने आवस्तिमख्खे कात्तिकीविनिर्गताय जावडावि[-]
[39] यवेन्तरडौवास्तथाय परमेस्वरनपत्रेतिङ्गेश्वरसुता[-]
[40] य भद्रश्रीमहोदधवे उदकधारापुरःसर[म]याचन्द्र[-]
[41] तारकार्कक्षितिसमकालोपभोगात्थं 'मातापिचोरात्मन[-]
[42] ख पुख्ययशोऽभिरुद्धवे ताम्प्राशनेनाकरोद्धव्य प्रतिपादि[-]
[43] त इत्यवगत्य समुचितकरनिकरभोगभागादिकसु[-]
[44] पनयद्भिर्भवद्भिः सुखं प्रतिवस्तथ्यमिति । भाविभि[-]
[45] ख भूपतिभिर्दन्तिरियमख्खदौया धम्मगौरवादख्खदसु[-]
[46] रोधाख्ख खदन्तिरिवानुपालनीया । तथाचोक्तं धम्मशास्त्रे बहुभि
[47] व[]सुधा दत्ता राजभिः सगरादिभिः । यस्य यस्य यदा
भूमिस्तस्य त[-]
[48] स्य तदा यत्नं । 'मा भूदयत्नश्चाप्य वः परदत्तेति पार्थिवाः खदा[-]
[49] यात् यत्नमागन्थं परदत्तानुपालने । 'वष्टि'न्वर्धसहखाणि स[-]
[]
[50] र्गे मोदति भूमिदः । आसोप्ता चागुमन्ता च इयमेव नरकम्[-]
[51] जेत् । 'खमेरपत्वं प्रथमं सुवर्णं भूर्वेख्खनी सूर्धसुत[]ख गावः यः

THIRD PLATE (a).

- [52] काख्खनं गाख्ख महोख्ख दद्यात् [।] दत्ता ख्खयत्नेन भवन्ति लोके⁸।
⁹खास्त्रो[-]
[58] टयन्ति पितरो वषगयन्ति पितामहाः¹⁰ ॥ भूमिदाता कुले जातः
[54] स नख्खता भविष्यति [।] ¹¹भूमिं यः प्रतिगृह्णाति यख्ख भूमिं
प्रयच्छ[-]

1 Read— भोजार्थं । 2 Read ताख्खशास्त्रेवा- । 3 Metre: Anushtubh.

4 May be corrected to खाख्खयं as Fleet has done. But I think खाख्खय also may be retained meaning "longlasting," especially as all the versions show this form.

5 Metre: Anushtubh. 6 Read वष्टिवर्ष । 7 Metre: Indravajrā.

8 Read लोकाः 9 Metre Anushtubh. 10 Omit one perpendicular.

11 Metre: Anushtubh.

- [55] ति [१] उभौ तौ पुण्यकर्माद्यौ नियतं स्वर्गगामिनौ [१] 'तद्भागानां
सहस्रेण
- [56] वाजपेयशतेन च [१] गवां कोटिप्र[दा]नेन भूमिहर्ता न शुध्यति ।
१ स्वर्गानेकं गामेकां
- [57] भूमेरप्यर्धमङ्गुलं [१] हरत्तरकमायाति यावदाहृतसंज्ञवं ॥
१ धन्यायेन
- [58] हता भूमिरन्यायेन तु हारिता [१] हर्ता हारयति' यस्तु
मन्दबुद्धिस्तमोहतः । सु[-]
- [59] बद्धो वासवैः पाशैस्तिर्यग्गोनिं स गच्छति [१] १ स्वदत्तापरदत्तांवा
- [60] १ जो हरेत वसुन्धरां स विद्यायां क्षमिर्भूया¹⁰ पिष्टभिः [१] सह
पच्यते ॥ ¹¹ व्या[-]
- [61] दित्तो¹² वरुणो विष्णु¹³ ब्रह्मा सोमोज्जतासः ¹⁴ [१] शूलपा[-].
- [62] शिञ्च भगवानभिनन्दन्ति भूमिदं । [१] ¹⁵ सामान्यो [५] य[१]
धर्मसे[-]
- [63] तुष्टपाणां काले काले पासनीयो भवद्भिः । सर्वानेतान् भावि[-]
- [64] नः पार्थिवेन्द्रान् भूयो भूयो याचते रामभद्रः । ¹⁶ इति कमल-
- [65] दक्षाम्बुविन्दुकोलां श्रियमनुचिन्त्य मनुष्यजीवितश्च [१] सकल-
मिद[-]
- [66] सुदाहृतश्च बुद्धा गहि पुरुषैः परकीर्त्तयो विलोप्याः [१]
¹⁷ वेगात्पन्त[-]
- [67] सुरासुराधिपगुहप्रज्ञाभिमानो जितो राजारोपितराज्यभारम[-]
- [68] तुलं बन्धावहङ्गीकया [१] यस्यासौम्यविक्रमदयमपि ¹⁸ प्रेयां-
सखास[-]

1- Metre : Anushtubh. 2 Metre : Anushtubh. 3 Read सुवर्ग.

4 Read वे. 5 Read सु. 6 This sloka has six feet : metre चतुष्टुभ्.

7 Read -विता. 8 Metre : Anushtubh. 9 Read यो. 10 Read ज्ञा.

11 Metre : Anushtubh. 12 Read ज्ञा 13 Read -भुवे- । 14 Read शनः

15 Metre : Śālinī. 16 Metre : Pushpitāgrā. 17 Metre Sardūlakīrḍita.

18 Read न् for anusvāra .

[N. S.]

[69] अंदा स श्रीमान्कृतसाम्बिविद्यहृपदः श्रीविद्यदसाङ्गः [।]

कोसलीयसम्बिविद्यही¹ सता²क

THIRD PLATE (b).

[70] कायस्य सूयंसेजेन लिखितं शासनं स्यात् वावचन्दार्कता[-]

[71] रकं । परममाहेत्तर परमभट्टारकमहाराजाधिराजपरमे[-]

[72] श्वर सोमकुलतिजकन्निकनिष्ठाधिपति श्रीमद्यथातिदेवस्य प्र[-]

[73] वरुमानविजयराज्येऽष्टाविंशतिमे सम्बत्सरे³ भाद्रपदमासे

[74] खितपक्षे तिथौ पक्ष्यां यत्रापि सम्बत् २८ भाद्रपद

[75] सुदि ५ शिवं । 'विमानो मधुमथनेनोत्कीरितम्' ।

¹ Probably कोसलीयसम्बिविद्यहृपदाक is the correct expression, meaning "belonging to the office of the minister of peace and war of the Kosala country."

सताक—The sign of ता is not very distinct; it looks more like the sign of a full stop. The word must, however, be either सताक or सताक. It is derived most probably from root त्. It is equivalent in meaning to प्रविद्यक in line 42 of A, line 47 of B, line 40 of G. The three letters may also be read as सवक, a mistake for सैवक, a servant.

² Read संबत्सरे । Read—कीरंम्

³ E, F and H have विमानो, which is probably the correct form. This was probably an official title. I has विमनि.

⁴ Read कीरंम् ।

A TABULAR ABSTRACT OF

1	2	15	16
No.	Place of find.	Gravenger.	REMARKS.
I A	Pāṭnā.	Mahavagalia	... In A and G, the grants are made subject to the payment of a small revenue.
II G	"	"	Do.
III B	Chauḍwār (near Katak).	Mādhava son of Vāsu.	In B, C, D, the other name Janamejaya is not mentioned.
IV C	Prob. near Katak.	"	Do.
V D	Katak.	"	Do.
VI H	Pāṭnā.	Mahavagup	Vijñāni Mādhava, son of Vāsu. This is the obscurest of the charters.

6	7	8
ages cited.	The district or Vishaya.	Country
nda- ma).	Maraḍa.	Dakshina Tosala. [Prob. a mistake for Kosala, Fleet].
thell delā- i].	Telātatta.	Kosala.
ta- ā.	" in Śannavati.	"
imi- a).	Śākhāga- dyanhā.	"
ā.	Gidāṅḍā (Maṅḍala).	...

THE ELEVEN CHARTERS—Continued.

9	10	11	12	13	14	15	16
Grantee's name.	Grantee's Residence.	Country.	Place from which the grantee is immigrant.	Writer.	Mahāsandhivigrahin.	Engraver.	REMARKS.
Saṅkha-pāṇi.	(Sri) Śilābhāṣjapati.	Oḍra.	(Sri) ballāgrama in Madhyadeśa.	...	Cohicchaṭeśva.	Vijñāni Mādhaṇa.	...
dhodadhi	Ntarāḍi in Lavaḍā-(vishaya).	...	Kasili in Srīvastīmaṇḍala.	Tathāgata, a Kāyastha (writer) of the office of the Mahāsandhivigrahin.	Dhāradatta (the Rāṇaka).	...	...
"	"	...	"	Kāyastha Sūryasena (of the office of the Mahāsandhivigrahin).	Singhadatta (M.S. of the Kosala).	The Vijñāni Madhumathana.	...
Raccho, ie rāṇaka.	Siṅgā (grama) in Devlbhoga (viṣaya).	Kosala.	Kasilli-bhāṭṭa-grāma in Srīvastīmaṇḍal.	Maṅgaldatta.	Singhadatta.	The Vijñāni, Madhumalla.	...
(Bhāṭṭa-itra) Na-lyṇṇa, son of Janār-dana.	...	...	Hastipada.	Purṇadatta, son of Kirāṇa, the Śreṣṭhin of Lenapura.	...	...	Written in a very cursive hand. The second name, Bhīmāratha, of Mahā-Bhāvagupta II is not mentioned.

2. *Earwigs of the Indian Museum, with Descriptions of New Species.*—By MALCOLM BURR, B.A., F.L.S., F.G.S., F.Z.S., F.E.S.
Communicated by N. ANNANDALE.

Genus APACHYS SERVILLE.

Apachys fex Borm. Sikhim. Nos. 5301-02/14, 1802/6, 2552-3-4-5-6-8-9/5. All nymphs. Previously recorded from Silhet and Burma.

Genus DIPLATYS SERVILLE.

Diplatys ridleyi Kirb. Upper Assam, No. 1332/9, ♀. This species has been recorded from Sumatra, but the specimen in question does not appear to be distinct.

Diplatys gladiator, n. Calcutta. 1 ♂, No. 7336/14, and a larva, taken also at Calcutta, by Mr. Nelson Annandale. Owing to the distribution of the colours, I feel certain that this larva belongs to this species. It has the very long segmented cerci that are characteristic of the larvæ of this genus.

Genus PYGIDICRANA SERVILLE.

Pygidicrana eximia Dohrn. No. 5310/14, ♂ ; Berhampur No. 5962/12, ♀.

Genus ECHINOSOMA SERVILLE.

Echinosoma sumatranum (Haan). Khasi Hills, Sibsangor No. 5324/14. (S. E. Peal.) One ♀. Also a fragment which I refer with doubt to this species, labelled Calcutta, and another fragment from Sikhim, No. 2560/5. The species is abundant in Java, Sumatra, etc.

Genus FORCIPULA BOLIVAR.

Forcipula trispinosa (Dohrn). Sikhim, Nos. 8858/13, ♂. 5308/14 ♀, 5315/14, ♂.

Forcipula quadrispinosa (Dohrn). Sikhim, Nos. 5319-26-29/14. All females. Both these species are previously known from India and Burmah.

Forcipula decolyi Borm. Sibsangor, (S. E. Peal), 1 ♂, No. 5317/14. Previously recorded from Madras.

Genus LABIDURA LEACH.

Labidura bengulensis (Dohrn.) Berhampur, No. 5960-1-3-4-5/12. 2 ♂ ♂, 3 ♀ ♀. Hardware, (J Wood-Mason), 1 ♂, No. 5320/14. Calcutta, 1 ♂ & 1 ♀, (Mus. Collr.) Also a larva, Berhampur, No. 5969/12.

Labidura riparia (Pall.) var. *inermis* Brunner. Berhampur, Nos. 5967-8/12. 1 ♂, 1 ♀. Calcutta, 18 ♂♂, 42 ♀♀, 25 larvæ.

Labidura riparia (Pallas.) Type form. Bangalore, (Cameron). No. 5314/14, 1 ♂. Berhampur, No. 5966/12, 2 ♀. Seistan Boundary Commission, 1 ♂. Dehra Dun, No. 6337/8, larva.

Labidura lividipes (Dufour.), Ranchi, No. 8426/12. Calcutta, Nos. 5577/12, 5528/12, 2 ♀♀, & 8200/11, broken.

Genus LABIDURODES BORMANS.

Laburodes robustus Borm. Tavoy, No. 170/5. This specimen is not mature, but it agrees well with de Borman's description of the type from New Guinea.

Genus ANISOLABIS FIEBER.

Anisolabis annulipes Lucas. Calcutta, 2 ♂♂.

Genus SPONGIPHORA SERVILLE.

Spongiphora sphinx Burr. Calcutta, 1 ♂.

Genus CHELISOHELLA VERHOEFF.

Chelisocheilla superba (Dohrn.) Johore, (J. Wood-Mason.), No. 5305/14. 1 ♂.

Genus CHELISOCHES SCUDDER.

Chelisoche morio (Fabr.)? New (?) Hebrides, No. 5306/14. coll. Distant), 1 ♀. Johore, No. 5304/14, (J. Wood-Mason.), 1 ♂. Abundant throughout the Oriental Region.

Chelisoche glaucopterus Bormans. Upper Assam, No. 1330/9, 1 ♂. Recorded from Burmah.

(?) *Chelisoche melanocephalus* (Dohrn.) Upper Assam, No. 1334/9, 1 ♂. Recorded from India.

Genus ALLODAHLIA VERHOEFF.

Allodahlia scabriuscula (Haan.). Sikhim, Nos. 5303/14, 9015/7, 2 ♀♀; Sikkim, Mung Phu, No. 6225/8, 1 ♂. Sibsangor, Nos. 5322/14, 5318/14, 2 ♂♂, (S. E. Peal). Dunsiri Valley, No. 5321/14, 1 ♂ (Godwin-Austen). Upper Assam, Nos. 1327-28-29-31/9, 2 ♂♂, 2 ♀♀ No. 5311/14. 1 ♂.

Genus ANECHURA SUDDER.

Anechura ancylura (Dohrn.) Naga Hills, (Capt. Butcher.) No. 5309/14. ♀.

[N. S.]

- Anechura* sp. Shillong. No. 5312/14. (Godwin-Austen). 1 ♀.
Anechura metallica (Dohrn.) Khasia Hills, (J. Wood-Mason),
 No. 5316/14. ♂. Kurseong (purchased), 1 ♂.

Genus OPISTHOCOSMIA DOHRN.

Opisthocosmia oannes Burr. Khasia Hills. No. 5323/14, 1 ♂.
 Slightly different in colour from the type, (described from Assam;) the elytra and wings are bright bronzy castaneous instead of dark red.

Opisthocosmia sp. n. Sikhim. No. 5325/14. ♀.

Opisthocosmia vivax n. Dikrang Valley, Nanangs, No. 5313/14, (Godwin-Austen.)

Genus FORFICULA LINN.

Forficula sp. n. Rang, Sikhim. No. 5775/5. ♀.

Forficula tomis Koll. Oiwake. 1885. ♂. Recorded from Siberia and Japan.

Forficula sp. n. Sikhim. No. 53235/14. ♀.

Forficula beelzebub Burr. Dardjiling. No. 5745/5. ♀. Previously recorded from Dardjiling.

Forficula sp. n. Gilgit Exp. No. 3824/6. ♀.

Forficula celer n. Khasia Hills. No. 5327-8/14. ♂ ♀.

Forficula acer n. Sikhim, Mung Phu, No. 6724/8.

Genus APTERYGIDA WESTWOOD.

Apterygida bipartita Kirb. Nos. 5330-5361/14, 41, ♂ ♂, 61 ♀ ♀; Bangalore (Cameron), Nos. 5364-5-6-7/14, 6 ♂ ♂, 12 ♀ ♀. Some very dark in colour; also several fragments.

DESCRIPTIONS OF NEW SPECIES.

DIPLATYS GLADIATOR sp.n.

Caput fuscum, postice pallescens, oculis atris; occiput postice carinulis 4 instructum, suturis valde distinctis; frons inter oculos indistincte bi-impressa: antennæ typicæ, pallidæ: pronotum rotundatum, æque longum ac latum, pallidum; scutellum magnum, pallidum, triangulare: elytra brevia lata nigra; alæ rudimentariæ, haud prominentes; pedes pallidi; abdomen gracile, læve, tuberculis lateralibus parum distinctis, testaceo-rufum; segmentum penultimum breve, propter magnitudinem segmenti ultimi ceteris valde latius; segmentum ultimum dorsale quadratum, postice paullo dilatatum, rufum, læve, prope marginem posticum medio impressum, margine postico recto, prope angulos postico oblique truncato: forcipis brachia valde depressa, basi subcontigua, margine interno

in dentem acutum magnum dilatata, dehinc inermia, incurva, attenuata, aream ovalem includentia. ♂.

♂
Long. corporis.....8·75 mm.
„ forcipis.....1·5.

INDIA :—CALCUTTA.

A very distinct species, characterised by the rudimentary wings, black elytra, which are broad but short, round pronotum, and the form of the last abdominal segment and forceps.

There is a larva with long segmented cerci which, on account of the distribution of colours, I attribute also to this species. It also comes from Calcutta.

OPISTHOCOSMIA VIVAX sp. n.

Statura majore, castanea: caput magnum, tumidum sulcis Y-formantibus, profunde impressis: pronotum oblongum, antice rectum, postice paulo angustius, subrotundatum; prozona tumida, metazona plana, rugulosa: elytra ampla, granulosa; alæ prominentes, læves: prosternum latum, postice angustatum, margine antico recto, paulo reflexo: abdomen medio dilatatum, læve; segmentis omnibus margine postico pilis brevibus spissis horizontalibus instructis; segmentum ultimum dorsale angustum, declive, margine postico recto, integro; medio impresso, utrinque subtuberculato: pygidium prominens, validum, coxis 2 acutis terminatum: forcipis brachia remota, gracilia, subsinuata, apicem versus incurva, margine interno per totam longitudinem denticulata. ♀.

♀
Long. corporis.....18 mm.
„ forcipis.....9·5.

INDIA: DIKRANG VALLEY, NANANGS. No. 5313/14. (Godwin-Austen).

This is a very distinct species, characterised by the occipital sutures, the form of the pygidium, and the dilated abdomen.

The basal part of the abdomen is badly broken, but the specimen is apparently a female, though the well developed characters would appear to be more suitable to a male. It is possibly a male.

FORFICULA ACER sp. n.

Nigra; caput globosum, rufum, suturis obsoletis, læve; antennæ...? (segmenta 7 restant), nigrae: pronotum prozona vix ævata, deplanatum, medio sutura longitudinali instructum, latum, tertia vix angustius, margine antico recto, postico lateribusque paulo rotundatis, lateribus ipsis paulo reflexis: elytra et alæ edvia, rufo-nigra, lata; abdomen segmentis 1-3 fere lævibus, nigris

upberculis lateralibus distinctis; segmentis ceteris fusco-rufis, punctulatis; segmentum ultimum dorsale transversum, margine llostico incrassato, utrinque tuberculo magno nigro instructum: pygidium magnum longum, angustum parrallelum, apice truncatum: corcispis bracchia rufa valida basi subcontigua, depressa ac deplanata, valde elongata: pars depressa margine interno laminato-crenulata, dente acuto ac forti terminata; dehinc bracchia attenuata, deplanata, sensim incurva, inermia. ♂.

Long. corporis.....♂ 8.5 mm.
,, pygidii.....1.
,, forc. part. depressæ...2.5.
,, tota forcipis...8.5.

INDIA: SIKHIM, Mung Phu. No. 2724/8. ♂.

This specimen is of the "*macrolabiu* form" of forceps; it is characterised by the long parallel pygidium.

FORFICULA CELER sp. n.

Caput læve, globosum, rufo-nigrum: antennæ 11-segmentæ, rufæ, apice pallescentes: pronotum magnum, latum, capite vix angustius, margine antico recto, postico rotundato, granuloso; elytra ampla, lata, fulva; alæ longæ, fulvæ: pedes fusco-rufi: abdomen punctulatum, tuberculis lateralibus distinctis; segmentum ultimum dorsale ♂ transversum, utrinque obtuse bituberculatum; ♀ angustius, tuberculis obsoletis: pygidium haud perspicuum: forcipis bracchia ♂ basi contigua, deplanata, margine interno laminato-dilatata, usque ad dimidiam partem longitudinis, dehinc subito attenuata, sensim incurva, apice haud attingentia, ♀ contigua, recta, inermia. ♀.

Long. corporis.....♂ 9 mm. ♀ 8 mm.
,, forcipis.....4.....2.25.

INDIA: KHASIA HILLS. Nos. 5327-8/14.

Order.—That the recommendation of the Committee relating to the following matters be accepted :—

(1) Publication of a quarto series (2) Publication of a new series (8vo) containing the Journal and Proceedings combined. (3) Paper and Type to be used. (4) Insertion of advertisements relating to books and scientific instruments. (5) Appointing Messrs. Thacker, Spink & Co. to secure advertisements. (6) Publication of such resolutions of the Council, as the Council may determine, in the Proceedings. Circulate proposal about the appointment of a Publication Committee and their powers.

Read the following extract from a programme from the Royal Academy of Sciences of Turin, announcing a prize :—

The Royal Academy of Sciences of Turin announce a prize, open to savants and inventors of all nations, to be given to that person who during the four years 1903-06 shall, in the opinion of the Academy, have made the most striking or useful discovery, or have produced the most celebrated work in physical and experimental science, natural history, pure and applied mathematics, chemistry, physiology, and pathology, including geology, history, geography and statistics. The value of the prize is 9,600 francs.

Anyone wishing to compete may apply, but the prize will be awarded to the most worthy, though he may not have applied.

The following papers were read :—

1. *Occurrence of the genus Apus in Balúchistán.*—By E. VREDENBURG, *Geological Survey of India.*

2. *Tibet under the Tartar Emperors of China.*—By RAI SARAT CHANDRA DAS BAHADUR, C.I.E.

This paper has been published in Journal Part I for 1904.

3. *Pavana-dutam or Air-messenger, by Dhoyika, a Court poet of Laksmānasena, King of Bengal, with an Appendix on the Sena Kings.*—By MONMOHAN CHAKRAVARTI, M.A., M.R.A.S.

4. *Earwigs of the Indian Museum.*—By M. BURE. *Communicated by the Anthropological Secretary.*

This paper has been published in "Journal and Proceedings," N.S., Vol. I, No. 1.

5. *The Hydra of the Calcutta Tanks.*—By NELSON ANNANDALE, B.A.

6. *The composition of the oil from Bir Bahoti or the "Rains Insect" (Trombidium grandissimum).*—By E. G. HILL, B.A.

7. *Contributions to Oriental Herpetology II. Notes on the Lizards in the Indian Museum with descriptions of New Forms and Lists of species recorded from British India and Ceylon and of specimens collected in Sinki Island (East Sumatra) by the late Professor Wood-Mason's Collector (Part I).*—By NELSON ANNANDALE, B.A.

8. *Customs in the Trans-border Territories of the North-West Frontier Province.*—By H. A. ROSE, I.C.S.

9. *The Agraharis of Sasaram.*—By L. S. S. O'MALLEY, I.C.S.
Communicated by the Anthropological Secretary.

These papers have been published in Journal, Part III, for 1904.

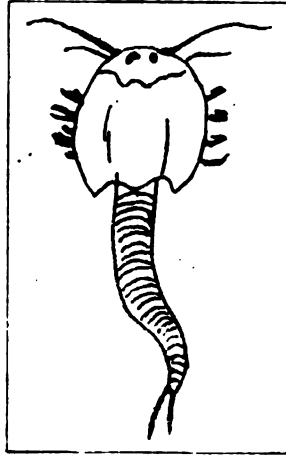
10. *Contributions to the Kanawar folklore.*—By PANDIT TIKARAM JOSHI. *Communicated by MR. H. A. ROSE.*

11. *A review of the first volume of the Archæological Reports of the Government of Java. Illustrated by a collection of photographs belonging to the reader of the paper.*—By FATHER DAHLMANN, S.J. *Communicated by the Philological Secretary.*



3. Occurrence of the genus *Apus* in Balúchistán.—By E. VREDENBURG, *Geological Survey of India.*

The following is an extract from my diary: "Kohián, 18th February, 1901....At Thaloñk there are some strange phyllopods." The above extract together with a rough sketch of the animal, is all that I have written in my diary regarding these creatures, but I am able to supplement this short notice from memory.



I was not aware, till a few days ago, that the matter was of any interest whatever, and only drew the sketch in order to be able to identify what appeared to me a very curious crustacean, not thinking that I could, thereby, add any information regarding its distribution. The circumstance did not recur to

my mind until a few days ago, when, on showing my sketch to Major Alcock and to Mr. Annandale at the Indian Museum, they recognised it as representing the fresh-water phyllopod crustacean *Apus*, and informed me that the genus has never yet been found within the limits of the Indian Empire. . Although, in the absence of an actual specimen, it is not possible to determine the exact species, yet the occurrence of the genus within a region where it had not yet been known to exist appears sufficiently interesting to be worth bringing to the notice of the Society.

Thaloñk is situated in Latitude 28° 24' N. and Longitude 64° 43' at the foot of an abrupt limestone range forming the northern border of the Kharán desert which constitutes a portion of the semi-independent State of Kharán in Western Balúchistán. I passed this locality while marching to Kohián, a camping place situated about three miles further east, and did not have any opportunity of again visiting it. Except for a few wells and springs this region is almost waterless. On the occasion of my visit in the winter of 1900-1901, there had been, however, quite an unusual amount of rainfall. Heavy showers fell on all the hill-ranges at the end of December and beginning of January. Considerable tracts in the desert were flooded, and pools of water remained in many places for weeks and perhaps months. At Thaloñk I came across what appeared to me a pool of this kind, occupying a shallow depression in the desert plain. It had dwindled to scarcely more than a yard in diameter, and, to me it seemed to be of a transitory nature. Perennial pools, fed by underground springs, do occur in certain parts of the desert, and I

cannot say for certain that this one was not of that kind, but from its appearance, this seemed unlikely. On approaching the pool I found it swarming with the crustacea of which I here give a sketch. There must have been dozens of them, all of about the same size. I placed one of them in a bottle of water, but it probably got injured while removing it from the pool for it died almost immediately. I tried to preserve it in spirit, but the bottle was accidentally broken and the specimen lost, so that the only guide remaining to identify it is the rough sketch that I drew the same day that I observed these creatures.

The sketch is drawn approximately of natural size. It is quite diagrammatic, but sufficiently detailed to enable clear identification of the object represented. The diagram shows distinctly the principal features of *Apus*, the shield with the main details of its ornamentation, the anterior pair of eyes, the anterior legs, transformed into long antenniform filaments, the expanded branchial legs protruding on either side of the carapace, the greatly segmented abdomen and the caudal appendages. The portion of the body extending beyond the shield is proportionately longer than in the specimens and figures that have been shown to me by Major Alcock and Mr. Annandale. Its relative dimension is possibly slightly exaggerated in my sketch. There is no doubt, however, that it really was longer than in the examples that I have since seen figured or preserved in spirit, for I was particularly struck, at the time, by its shape and size. My sketch shows one pair of eyes in the anterior part of the shield. There exists, in *Apus*, a third unpaired eye placed slightly further back than the line joining the paired eyes, but it is very small and easily escapes detection if one does not know of its existence. The caudal appendages are much shorter in my sketch than in the figures and specimens which I have seen in Calcutta. Perhaps they had got broken in my specimen.

The presence of so large a number of crustacea in the situation where I observed them, appears very puzzling. If the pool was the remnant of a larger pond temporarily filled by rain-water, one can understand that they should have gradually become crowded into a small space as the water receded, but their development must have been very rapid, for if the pool is not one of the perennial ones alluded to, it could scarcely have existed for more than two months previous. If the pool is perennial and normally of the small size it possessed when I saw it, its crowded population is still difficult to account for.¹

As noticed at a previous meeting by Mr. Annandale, it is probable that the reputed absence from this country of many well-known fresh-water invertebrates is due to our scant knowledge of its fresh-water fauna.

¹ Mr. Annandale has drawn my attention to the account of the genus in Bird's Natural History of the British Entomostraca, according to which *Apus* can reach a length of one inch after three weeks development from the egg. It has also been noticed in Europe that this crustacean appears sporadically and suddenly in an unaccountable manner.

4. A note on Haláyudha, the author of Bráhmaṇasarvasva.—By
YOGÉŠA CHANDRA ŚASTREE.

PART I.

Bráhmaṇasarvasva is a well-known book which deals with the explanation of certain Mantras of the Yajurveda. Its author was Haláyudha—a Bráhmaṇa of considerable merit and talent. He was a great scholar of Vaidika and Loukika Sanskrit. He wrote several books in Sanskrit dealing with the different branches of learning. There are different conjectures as to his identity besides what is given by himself in his Bráhmaṇasarvasva.

Pundita Lálamohana Vidyánidhi, the author of Sambandhanirnaya, says that Haláyudha, the Prime Minister of Lakshmana Sena, was the Haláyudha of the Chatta family, who was honoured by Ballála Sena. He also says that this Lakshmana Sena equalized the rank among the Kulins of the Rárho class, and was the son of Keśaba Sena, and hence the great-grandson of Ballála Sena.¹

The late Pundita Muktaráma Vidyábágiśa, who edited Veni-sambhára, a well-known drama by Bhatta Náráyana, at the expense of the late Babu Prosanna Kumar Tagore of Calcutta, says in its preface that Haláyudha, the Prime Minister of Lakshmana Sena was sixteenth in descent from Bhatta Náráyana and was an ancestor of the Tagore family. He wrote many books on Smritis (Hindu Law and Usage) which are still extant. Dr. Rájendra Lala Mitra and Rájá Sourindra Mohana Tagore, the nephew of Babu Prosanna Kumára Tagore, mentioned above, are of the same mind with Vidyábágiśa, only differing from him in respect of the degree of descent.²

The late Babu Syámá Charana Sarakára, the author of Vya-basthádharpanam, a well-known digest of Hindu case law, writes in its preface, most probably following Muktaráma Vidyábágiśa, that

¹ Vide सञ्जयनिर्णय by Lála Mohana Vidyánidhi. First edition, pages 162, 163, 207, 208, 209.

भट्टनारायणादधस्तनघोडशतमः पुरयो हजायुध नाम, तेन स्मृति-
शास्त्रस्यानेकान् निबन्धान् रचयित्वा महात्मज्ञावतारिता । ते च
यस्या अद्यापि लोके प्रचलन्ति ।

स च हजायुधो गौड़ाधिपस्य जय्यकसेनस्य संसदि मन्त्रिकार्थं
करोति स्म ।

इति ७मुक्ताारामविद्यावागीशसंस्कृत-
वेळीसंहारनाटकस्यावतरणिकायाम् ।

² Vide Sena Rájás of Bengal, by Dr. R. L. Mitra, and English translation of Veni Sambhára by Babu Sourindra Mohana Tagore (now Rájá).

“this great Pundita (Halâyudha) was the spiritual guide of Laksmāna Sena, a renowned monarch, who gave his name to an era of which upwards of seven hundred years have expired. Halâyudha was a descendant in the fifteenth degree of Bhatta Nārāyana, author of Venisambhāra (a celebrated drama) and one of the five Vedāntists, who were brought from Kanouj by Rājā Ādiśura and whose descendants are almost all the Rārhi and Bārendra Brāhmanas of Bengal.”¹

Now, three questions arise here for decision :—

- (1) If Halâyudha, the author of Brāhmanasarvasva, did really belong to the Chatta family as stated by Lāla Mohana Vidyānidhi, or the Bandya family as stated by Muktarāma Vidyābāgīśa and his followers.
- (2) If he was the prime minister of Lakshmana Sena, the son of Keśaba Sena and great-grandson of Ballāla Sena.
- (3) Who was he in fact ?

At a certain date in his reign Ballāla Sena, the King of Bengal, made a gift of a golden cow. Some Brāhmanas of the Rārhi class after causing that cow to be cut into pieces, accepted the gift of gold. Their names are as follows : Sankara Pitamundi, Divākara Garagari, Douka Gura, Dokari Pippali, Mārtanda, Ānai, Gānāi, Hara and Gopee Bandya, Dokari Māshachataka, Mādhu Sudanā Rāyee, Yaba Kuśāri, Nārāyana Hara, Keśava Dāyaree, Keśava Mahinta, Sakuni Chatta, Nayāri Tailabāti, Viśvesvara Kunda, Bithu Bandya, Madana and Viśvesvara Ghoshala, Hāsyā Gānguli, Goutama Putitunda, Pārasāra Simali, and Sankara Dingsāi.

According to the injunction of the social law and royal command, the above-named Brāhmanas, who accepted the forbidden gift, the goldsmith, who cut the golden cow into pieces, and the Vanika, who bought or sold those pieces of gold, were all degraded.²

¹ Preface of शिवस्वाराज्ये by the late Syāmācharana Sarakāra, pages 23, 24.

² धेनुं स्वर्गमयीं कृत्वा ददौ विप्राय पार्थिवः ।
 सा च स्वर्गमयीधेनुश्चेदने प्रजगौ मुञ्जः ॥
 क्लिप्ता वह्निष्कृता राज्ञा स्वर्गानां वणिकोभवत् ।
 विप्राः प्रतिग्रहाज्जाताः सर्वधर्मैवह्निष्कृताः ॥
 शङ्करः पीतमुखो च गङ्गोऽपि च दिवाकरः ।
 गङ्गोडाडकनामा च दोकडिश्चैव पिप्पली ॥
 वन्द्योमार्त्तयज्ञनामा च तपोनिष्ठवृद्धततः ।
 आनाथिश्च ग्याथिश्च हाङ्गोपी च वन्द्यजाः ॥

Ballāla Sena having observed this evil practice of the Rārhi class of Brāhmanas, selected some principal Kulins from amongst those who abstained from accepting the gift and invited them to his capital. When the Brāhmanas reached his place Ballāla, after careful examination, declared them to be spotless Kulins and honoured them. The names of those spotless Kulins are as follows : Bahurupa, Sucha, Arabinda, *Haldyudha* and Bāngāla of the Chatta family, Gobardhanāchārya of the Putitunda family, Sīra of the Ghoshāla family, Roshākara of the Kundalāla family, Jālhana, Mahēsvara, Debala, Vāmana, Išāna and Makaranda of the Bandyā family, Utsaba and Garura of the Mukhaiti family, Kānu and Kūtuhala of the Kanjilāla family.¹ It is probable that Ballāla honoured the above-named Kulins of the Rārhi class about the same time that he established the aristocracy (कोलीन्व) among the Bārendra Brāhmanas.

मासो दोकङ्गिनामा च रायो च मधुसूदनः ।
कुशारिर्यव नामा च हङ्गोनारायणोऽपि च ॥
महिन्ताद्विविधनामा दायारिखैव केशवः ।
चट्टशकुनिनामा च तैलवाटोनयारिकः ॥
कुन्दो विश्वेश्वरोच्चेयो वन्द्यजोविठसंज्ञकः ।
घोषजो भ्वातरावेतौ मदनविश्वरूपकौ ॥
गाङ्गुजो च हास्य नामा पूतिगौतमसंज्ञकः ।
सिम्लि पराशरः ख्यातः शङ्करो द्विखिडसायिकः ॥
खमो कुजोद्भवश्चैव गोदानं जट्टर्द्धिजाः ।
तेषां सम्बन्धमात्रेण पङ्के गौरिवसोदति ॥
सम्बन्धे भोजने चैव दाने यज्ञे तथैव च ।
विद्वद्भिः आद्भकाले च वर्ण्यं एते पुनः पुनः ॥
इति कुशार्यवे ।
(यद्वृष्टं तस्मिन्निखितम्)

¹बङ्गरूपो शुचो नामा अरविन्दो हङ्गायुधः ।
वाङ्गाजस्र समाख्याताः पञ्चैते चट्टवंशजाः ॥
पूतिगोवर्द्धनाचार्यः शिरोघोषाजसम्भवः ।
गाङ्गुजो च शिशोनामा कुन्दोरोषाकरस्तथा ॥
जाङ्गनाख्यस्तथावन्द्यो महेश्वर उदारधीः ।
देवजो वामनश्चैव ईशानो मकरन्दकः ॥
उत्साहगवङ्गौ ख्यातौ मुखवंशप्रतिष्ठितौ ।

Some time after this Ballāla died and his son Lakshmana Sena became the King of Bengal. During his reign he found that those 19 Kulins, who were declared by Ballāla Sena to be spotless, were quarrelling with one another in respect of their rank. None of them thought himself inferior to another, but everyone considered himself superior to another. This put a stop, as it were, to their matrimonial connection.

Lakshmana Sena, the son of Ballāla Sena and inheritor of his throne, having marked this disorder of the Society, which originated from malice, equalized the rank of those 19 Kulins who were previously honoured by Ballāla and who were quarrelling with one another for rank, *i.e.*, he declared them to be of the same status. In the time of this equalization Utsaba and Garura were both left out but were replaced by their children—Āita, Abhyāgata, Pundita and Bādali. There were in all two equalizations among 21 Kulins. In the first, Āita, Bahurupa, Śira, Gobordhana, Śīsa, Makaranda and Jālhana, these seven Kulins were counted; and in the second, Arabinda Halāyudha, Sucha, Bāngāla, Debala, Maheśvara, Isāna, Roshākara, Bādali, Vāmana, Pundita, Abhyāgata, Kānu and Kutuhala, these 14 Kulins were reckoned.¹ Ballāla did not make any rule in respect of secondary aristocrats (गौण कुलीन). They became apostate during the time of Lakshmana Sena, and consequently were expelled by him from the Kulin class.

In the beginning of this note I have stated that Halāyudha wrote Brāhmanasarvasva—an explanatory treatise of certain mantras of the Yajurveda. In its beginning he has identified himself in the following words: "In the lineage (गोत्र) of Vātsya there was

कानुकुतूहलावेतो काङ्गिकुल समुद्भवौ ॥
 उगविंशतिसंख्याताः समता लोकसम्मताः ।
 एते सर्वे महात्मानः सभायां वज्जालस्य च ॥
 राज्ञः प्रपूजिताः पूर्वं प्रतिग्रहपराङ्मुखाः ।
 इति वाचस्पतिमिश्रकृतकुलरमायाम् ।

¹ आहतो बङ्गरूपाख्यः शिरो गोवर्द्धनः सुधीः ।
 गां शिशोमकरन्दश्च जालहनाख्यः समा इमे ॥
 इति प्रथमसमीकरणम् ।

अरविन्दो हलनामा शुचोवाङ्गलदेवसौ ।
 महेश्वरस्तथेशानो रोषोवादक्षिवामनौ ॥
 पण्डितोऽभ्यागतश्चैव कानः कुतूहलस्तथा ।
 समानाः कथिता एते जण्मणेन प्रपूजिताः ॥
 इति द्वितीयसमीकरणम् ।

मिश्रग्रन्थद्वयवचनम् ।

a pre-eminent sacrificer called Dhananjaya having a wife by name Gochhāshandi. Halāyudha was the son of Gochhāshandi by Dhananjaya. In the prime of his age he (Halāyudha) was a Court pundita of Lakshmana Sena, in middle age he became Lord Chancellor and in old age he was the Prime Minister of the same King."¹

From Halāyudha's own version we know that he never belonged to either Sāndilya or Kāśyapa lineage (गोष) as stated by Muktarāma and Lālamohan respectively; but he belonged to the lineage of Vātsya and his father's name was Dhanajaya. Halāyudha who was honoured by Ballāla was born in the Chatta family, and hence he belonged to the lineage of Kāśyapa and he was one of the equalized Kulins; and Halāyudha, who was born in the family of Batta Nārāyana, the ancestor of Bandya and hence Tagore family, belonged to the lineage of Sāndilya. His father's name was Rāmarupa, and he cannot be found in the list of the equalized Kulins. For these reasons, we can safely say that Halāyudha, the author of Brāhmanasarvasva, and Prime Minister of Lakshmana Sena, son of Ballāla Sena, is a quite different person from Halāyudha, the ancestor of the Tagore family, and from Halāyudha of the Chatta family who was honoured by Ballāla Sena.

I am unable also to admit the statement made by Vidyānidhi, when he says that Lakshmana Sena or Lakshmana

१ वंशे वात्स्यमुनेर्मुनेरिव सदाचारस्य विद्यामभू-
र्धर्माध्यक्ष धनञ्जयः समजनिष्ठायां परं ज्योतिषः ।
यस्मिन् जुहति जातवेदसि हृद्विर्वीमाङ्गन्यापिमिः
धर्मैर्धूपितमन्त्रसिन्धुसरितोदन्दारकैः पीयते ।
गोच्छाद्यङ्गीदैवतमजयमतिर्धैर्यसम्पदां वसतिः ।
प्रकृतिरिव परमपुंसस्तस्याभुद् यज्वनो गेहिनी ॥
बभूव तस्यां प्रकृतेर्महानिव श्रेयो निवासायतनं हृत्पायधः ।
यत्कौर्त्तिरम्भोनिधिवीचिदयङ्गदोलाधिरोह्यसनं विभर्त्ति ॥
कन्धं जन्मधनञ्जयाङ्गवतः श्रीकण्ठयक्ष्यापते-
राहृत्वासदृशीनिजस्य वयसः प्राप्ता महापात्रता ।

... ..
बाल्ये स्थापितराजपद्धितपदः श्रेतांशुविम्बोज्ज्वल-
श्वत्रोत्सिन्नामहामहत्तकपदं दत्त्वा नवे यौवने
यस्मै यौवनश्रेययोग्यमखिलं क्षापाकनारायणः
श्रीमान् कण्ठयसेनदेवदत्तपतिर्धर्माधिकारं ददौ ॥

हृत्पायधकृतप्राप्तयसर्व्वस ।

Nārāyana Sena, the son of Keśaba Sena, equalized the rank of the 19 Kulins honoured by his great-grandfather—Ballāla Sena, and that Halâyudha was his prime minister, inasmuch as we find in Halâyudha's own version that he was a Court pundit of Lakshmana Sena in the very prime of his age, while he became Lakshmana's Lord Chancellor in his middle age and in old age, the Prime Minister of the same King. It is stated also by Vidyānidhi that Halâyudha was honoured by Ballāla Sena. How then could Halâyudha be in the prime of his age during the time of Lakshmana Sena, the great-grandson of Ballāla? Moreover, it is quite impossible for the same 17 Kulins, who were honoured by Ballāla, to live up to the time of Lakshmana, his great-grandson, without a single of them being dead. It is really wonderful to observe that Vidyānidhi did not hesitate even to make Umāpatidhara a Court pundita of Lakshmana the great-grandson of Ballāla. This Umāpati was a Court pundita of Vijoy Sena, the father of Ballāla Sena. He composed the verses inscribed on a stone slab attached to the temple of Prodyumneśvara Siva established by Vijoy Sena. Vidyānidhi may try to support his view regarding Umāpati by citing the instance of Joyhari Chandra, a grandson of Mahārājā Krishna Chandra, who (Joyhari) was present in his time and is still present in the time of Mahārājā Kshitīśa Chandra, the 7th in descent from Krishna Chandra. But it is quite illogical to say that as Joyhari Chandra is living, so Umāpati lived, inasmuch as Joyhari's case is merely an exceptional one and cannot be made a general rule.

Under these circumstances we must hold that Halâyudha, the author of *Brāhmanasarvasva*, never belonged to either Kāsyapa (Chatta) or Sāndilya (Bandyā) lineage; but that he was of the lineage of Vātsya, being the Prime Minister of Lakshmana Sena, the son and not great-grandson of Ballāla Sena,

This Halâyudha wrote several other books besides *Brāhmanasarvasva*, namely, *Punditasarvasva*, *Nyāyasarvasva*, *Sivasarvasva*, *Mimānsāsarvasva*, etc. His elder brother Paśupati wrote a treatise on *Śrāddha* and other ceremonies, known as *Paśupatipaddhati*. His younger brother wrote *Āhnikapaddhati*, a treatise on the daily duties of Brāhmanas. These books are still in existence but not very widely known.

5. *Pavana-dūtaṃ, or Wind-Messenger, by Dhoyika, a court-poet of Lakṣmaṇasena, king of Bengal, with an Appendix on the Sena kings.*—By MONMOHAN CHAKRAVARTI, M.A., M.R.A.S.

This poem was first brought to public notice by our Philological Secretary Mahāmahopādhyāya. **Introduction.** Paṇḍit Haraprasād Čāstri in "Notices of Śanskrit MSS.," Second Series, vol. I, part II, pp. 221-2, (No. 225). A brief abstract of its contents was read by him in the Proceedings of this Society for July 1898, which was reproduced with some variations in his Preface to the above "Notices," pp. xxxvii-viii. He described the MS. as "a discovery of some importance," and rightly, for before this, no poem of Dhoyika was known, and even up to now this MS. is the only copy known. Its owner Paṇḍit Raghurām Tarkaratna of Viṣṇupur, District Bānkrā, has, at the instance of its present subdivisional officer Babu Atal Behari Bose, kindly lent me the MS., and has thus enabled me to edit the text.

The MS., on yellowish country paper, consists of 12 leaves. (or rather 23 pages), $13\frac{1}{2}'' \times 3\frac{3}{4}''$. It was

The MS. apparently part of a large MS., for the leaves are numbered on the left side from 151 to 162. The text, five or six lines to a page, is $10\frac{1}{4}'' \times 11\frac{1}{2}''$, and has besides marginal notes. The characters are modern Beṅgali; the handwriting neat and generally legible. The colophon states that the MS. was copied by one Rāmagati in Čaka 1752 *Kārttika sita*, or A.D. 1830. October-November, bright half (of the lunar month). Rāmagati is father of the present owner. In the text are various omissions and mistakes, some of which have been corrected in the margin apparently by the copyist himself. The marginal notes are few, and give no help in difficult or deficient passages. I have therefore given the text exactly as it stands in the MS., the conjectural emendations being noted in small brackets, and the omissions in larger brackets with asterisks. Several passages, however, still remain doubtful.

The poem has 104 stanzas, all in the metre *Mandākrāntā*. It was composed in imitation of Kālidāsa's lyric poem, *Megha-dūtaṃ*, cloud-messenger, (better

Contents. known in the south as *Megha-sandēṣaḥ*). The metre is the same; the story is an evident adaptation from the latter; and in several stanzas reminiscences and even actual words of the *Meghadūta* verses can be traced.

Such imitations of Kālidāsa's poem are not infrequent in later Sanskrit literature, as the following list will show:—

Imitations of Meghadutām.

1. *Uddhava-dūtaṃ*, (vv. 141), by Mādhava Kavindra Bhaṭṭācāryya of Tālitānagara (Printed in J. Vidyāsāgara's *Kāvya-saṅgraha*, Calcutta).

2. *Uddhava-dūtām* or *U-sandeṣam*, (vv. 131), by Rūpa Gosvāmi, the disciple of Caitanya (printed in *K. saṅgraha*).
3. *Kīra-dūtām*, (vv. 238 P), by Rāmagopāla, the court poet of a king of *Vaṅga* (MS. No. 67, "Notices" 2nd series, Vol. I).
4. *Cātaka-sandeṣaḥ*, (vv. 141), by a Brāhmin of Keraḷa, (J.R.A.S., 1884, p. 451).
5. *Nemi-dūtām*, (vv. 126), by Vikrama, a Jaina poem (*Kāvya-mālā*, Vol. II, Bombay).
6. *Padāṅka-dūtām*, (vv. 146), by Mahāmahopādhyāya Kṛṣṇa Sārvabhauma in Çaka 1645 under the patronage of Mahārājādhirāj Rāmajivana (Printed in *Kāvya-saṅgraha*).
[Commentaries by Rādhāmohan and Rāmahari.]
7. *Pavana-dūtām*, the present poem.
8. *Bhramara-sandeṣaḥ*, (vv. 192), by Vāsudeva of Keraḷa (J.R.A.S., 1884, p. 452).
9. *Çuka-sandeṣaḥ*, (vv. 163), by Lakṣmidāsa of Keraḷa (Printed in J.R.A.S., 1884, pp. 404-431).
10. *Çuka-sandeṣaḥ*, by Karingampalli Nambudri (Oppert's List of MSS. 2721, 6426).
[Commentary by Eralpatu, king of Calicut.]
11. *Çuka-sandeṣaḥ*, by Raṅgācāryya (Rice's Mysore List of MSS., 244).
12. *Subhaga-sandeṣaḥ*, (vv. 130), by Nārāyaṇa of Keraḷa (J.R.A.S. 1884, p. 449).
13. *Haṁsa-dūtām*, (vv. 40), by Kavindrācāryya Sarasvatī (Burnell's Catalogue of Tanjore Palace Library, p. 163a).
14. *Haṁsa-dūtām*, (vv. 142), by Rūpa Gosvāmi (Printed in *Kāvya-saṅgraha*).
[Commentaries by Nṛsiṁha, Rāmaçāṅkara and Viçvanātha Cakravartti.]
15. *Haṁsa-sandeṣaḥ*, (vv. 110), by Veṅkaṭeça Vedāntācāryya (J.R.A.S., 1884, p. 450).
[Commentary by Appayya Dikṣita.]
16. *Haṁsa-sandeṣaḥ*, (vv. 110), by an unknown poet, writing apparently in rivalry of Veṅkaṭeça, No. 15, (J.R.A.S. 1884, pp. 450-1).

The story of the poem is very simple. On the sandal-hills is

a Gandharva town named *Kanaka-nagari* (v. 1). There Kunalayavatī, a fair Gandharva girl, saw King Lakṣmaṇa who had come on world-conquest. She fell in love with him (v. 2). But unable to express to him her feelings she passed several days in grief. Deeply distracted, she at length begged the southerly breeze (v. 3) to convey to the king of Gauḍa her message of love (v. 5). She then describes the countries and the people, the wind would have to pass over (vv. 8-35), until it would come to *Vijayapura* the capital of the

king. The capital and the king are then described (vv. 36-60). Then the love message and the pangs of her sufferings the wind is asked to communicate to the king (vv. 61-100). The last four stanzas are personal or benedictive.

Interesting geographical details are furnished in the description of the wind's journey (vv. 8-36). The breeze starts from the *Malaya* (v. 8), the

hill-range forming the eastern boundary of Travancore. Crossing the valleys at the foot of the *Malaya*, it will go to *Pāṇḍa-deça*,

Pāṇḍya-deça. with its capital *Uraga-pura* or *Bhujaga-pura* (v. 10) on the bank of the *Tāmraparṇī* (v. 8). *Pāṇḍa-deça* or the country of the *Pāṇḍyas* is comprised in the modern Districts of Tinnevely and Madurā with S. Travancore; Tinnevely itself stands on the left bank of the river *Tāmraparṇī*. The *Pāṇḍyas* are known from very early times, being mentioned in the rock Edicts of Asoka, the *Vārttikas* of *Kātyāyana*, and also in *Mahābhārata* and *Rāmāyaṇa*. The capital *Uragapura* is mentioned in *Raghuvaṁça*, vi. 59-60; while the *Tāmraparṇī* with the pearl fishery at its mouth in the Gulf of Mannar is still more famous. The Greek and Roman name for Ceylon, Taprobane, is believed to be derived from this river's name.

The wind will then pass by the Bridge of *Rāma* which looks like an arm of the earth extended to the *Laṅka-dvīpa* (v. 10); and here lies the god *Rāmeçvara* (v. 11). This refers, of course, to the Adam's Bridge and the well-known temple of *Rāmeçvara*, described to be one of the twelve *Jyotirlingas*.

The wind next proceeds to *Kāñcīpura*, the ornament of the South (v. 12), the capital of the *Coḷa* ladies (v. 14). *Kāñcī* or *Conjeeveram* is one of the oldest cities of India, being mentioned in *Pātañjali's* *Mahābhāṣya*; while the *Coḷas* have been named in the rock Edicts of Asoka, and the *Vārttikas* of *Kātyāyana*. At the time the poet wrote, the *Coḷas* were the most powerful in the South, having been raised to that eminence by *Kulottuṅga Cola I* (A. D. 1070-1118.)

Following (westward) the course of the *Kāveri* (v. 115), the wind will come to the land of the *Keraḷas* (v. 16). The river *Kāveri*, which fertilises the *Coḷa* country, flows past the great temple of *Çriṅgam*. The *Keraḷa* land is identifiable with the west coast from N. Travancore to *Gokarṇa* in N. Mysore. *Kerala* was known to *Pātañjali*, and is apparently the same as *Keraḷa-putra* of Asoka's rock Edicts.

Having thus gone through the southern half of Deccan, the wind will next see the *Mālyavanta* mountain (v. 18), and *Pañcāpsara* the tank of *Māsyakarṇī Rṣi* (v. 19). Both these names are well known from *Rāmāyaṇa*.¹ *Mālyavanta*² is apparently the central portion of the

¹ *Rāmāyaṇa* 3. 11. 11-12; *Raghuvaṁça*, 13. 38.

² For *Mālyavanta*, see *Rāmāyaṇa* 4. 28. 1. The difference between poetical talent and poetical genius can be well seen by comparing the

Eastern Ghāṭs between the rivers Pennār and Kṛṣṇā; and the *Pañcōpsara* tank is to be located somewhere between the Kṛṣṇā and the Godāvārī.

Then the wind avoiding the passes round about the *Godāvārī* will turn to the capital of *Kāliṅgas*, (v. 21); from which it will go to the sea-coast (v. 22).

Kāliṅga-nagarī.

It is clear that the Kāliṅga capital was near the sea but not on the coast. In the 12th century this capital was at *Kāliṅga-nagara*, which has been reasonably identified with modern Mukhaliṅgam¹ in Pārṣā-Kimidi Tributary State, District Gañjām. This town stands on the river Vañcadhara, 18° 37' lat. 84.° 3' long., about 22 miles by map from Kāliṅgapattam, the port at the mouth of this river.

From the sea-coast the wind will blow over the *Vindhya-Vindhya Moun. pādōḥ*, frequented by elephants (v. 23), to the *Revā* with its groves peopled by *Savarīs* and its plains by more civilised races. The hill ranges to the north of the Mahendra Mountain were considered to be a part of the Vindhya; and this hilly region was then occupied by the *Savara* tribes. The wind thus cuts direct north and reaches the source of the river *Revā* or Narmmadā in the Amarakantaka hill.

The wind is then asked to go to *Yayāti-nagarī* to see the amorous frolics of *Keraḷī* girls (v. 26). This town has not yet been identified, but it is mentioned in a copperplate inscription of Mahā-çiva-gupta.² There it is said to be on the bank of the *Mahānadi*, which may, after all, be a common name referring to some large river. Anyhow it was in the country of Dakṣiṇa-Kosala, identifiable with the eastern part of Central Provinces. Curiously enough the people are called *Keraḷas*.

From *Yayāti-nagarī*, the wind will blow on to the *Suhma-deça* on the Ganges (v. 27). Here the Brāhman ladies wear tender palm leaves as ear-ornaments (v. 27); and here the god Murāri resides (v. 28). On the bank of the Ganges is (an image of) Çiva and Pārvati combined (v. 30). Further up comes the separation place of the Bhāgirathi and the Jamunā rivers (v. 33); and is reached the capital *Vijayapura* on the bank of the Gan-
tinally 36).

description of *Mālyavanta* in v. 18 of *Pavanadūtām* with Raghu 13. 26 and *Uttara-rāmacarita*, 1. 33.

रत्नकिरीटाञ्जनात् पुरस्तात् चाविर्भवत्यन्तरवेदिद्वयम् ।

यसं यत्रो यत्र यत्रैर्वा च अहिप्रयोगानु यसं विहसत् ॥ रघुवंश ।

सौवंशैः ककुभ-द्वारभिराञ्जनात् नाम वक्षिम् ।

शौचक्षिन्ः यत्रनि शिखरं मूलमखीकवासा ॥ ७० ॥ वरिम् ।

¹ Ep. Ind. IV, pp. 188-9.

² Ep. Ind. Vol. III, p. 356.

Suhma is the old name of a Division of Bengal comprising northern Midnapore, District Hughly west of the Sarasvatī river and the eastern part of District Burdwan. *Tāmrālpti* was its port,¹ and *Vijayapura* its capital. *Vijayapura* is apparently to be identified with Nūdiāh (Nadiā or Navadvīo), which was the capital of Lakhaniya at the time of the inroad of Muḥammad-i-Bakht-yār.² Is this name connected in any way with Vijāyasena, grandfather of Lakṣmaṇasena?

The poet Dhoyika (or Dhoyī Kavirāja as per colophon) can have his time ascertained only approximately. Being mentioned in *Gīta-govinda*, verse 4, he must be a contemporary of or slightly older than Jayadeva. But Jayadeva's time has not yet been definitely ascertained. Dhoyika's verse is quoted in Jalhana's *Subhāṣita-muktāvalī*, compiled in the second half of the 13th century³ and in Āridharadāsa's *Śadūkti-karṇāmṛta* compiled in A.D. 1205-6.⁴ So he must be earlier than 1205. He cannot be much earlier, for in the present poem he makes Lakṣmaṇa of the Sena dynasty its hero.

The chronology of the Sena dynasty in Bengal is involved in much confusion. It is therefore discussed at length in an Appendix. I have therein come to the conclusion that Lakṣmaṇasena ruled from A.D. 1170-1 to about 1200. He must have ruled for some time, before he could be mentioned as having gone out on world-conquest (v. 2). Consequently the composition of the poem may be reasonably inferred to have taken place in the fourth quarter of the 12th century.

The text with an index of śloka-beginnings and of proper names, chiefly geographical, is appended.

APPENDIX.

The Sena Dynasty of Bengal.

The chronology of this dynasty was, up to a recent period, largely based on traditions given in the **The Sena Dynasty.** *Kula-pañjikās* of *ghaṭaks* (matchmakers), and in such works as *Kṣītiṣa-vamṣāvalī-caritām* and *Min-i-Akbari*. Recent researches are, however, clearing the ground. As the author of *Pavana-dūtān*, Dhoyika, was the court poet of Lakṣmaṇasena, it has become necessary to ascertain the approximate time of this king, and thus indirectly of the whole dynasty.

¹ *Daṣakumāra-carite* 6th uccahāsa " *Suhmeṣu Dēmalipt-āhvayasya.*"

² Raverty's translation, p. 554.

³ Notices of Bombay Sanskrit MSS., 1897, p. XXVI (*Goi-dhoyi Kavirāja*).

⁴ R. L. Mitra's Notices of Sanskrit MSS., Vol. III, pp. 135, 145.

Documents for determining their Succession. From the following documents the succession of the Sena kings has been well established :—

- (a) The *Vallāla-caritaṃ* of Ananda Bhaṭṭa (Bibliotheca Indica edition) p. 61; Adhyāya 12, śloka 50-3;
- (b) The MSS. of *Dāna-sāgara* and *Adbhuta-sāgara* attributed to Ballālasena (their introductory verses);¹
- (c) The stone inscription of Vijayasena at Deopārā (Ep. Ind. I., pp. 307-8).
- (d) The copperplate inscriptions.
 - (i) Tarpanadighi, of Lakṣmaṇasena (J.A.S.B., XLIV, p. 11).
 - (ii) Bākargañj, of Viçvarūpasena (J.A.S.B., VII, p. 43).
 - (iii) Madanapāḍa; of Viçvarūpasena (J. A.S.B., LXV, p. 9.)

These show that the dynasty was founded by Sāmantasena; then his son Hemantasena who married Yasodevī; then his son Vijayasena; then his son Vallālasena; then his son Lakṣmaṇasena who married Çri-tāndrā (?); and lastly his son Viçvarūpasena.

The succession thus proved disposes of the assumption of Dr. R. L. Mitra that two Lakṣmaṇasenas existed in the Sena dynasty.² It also sets aside the traditionary list in the *Min-i-Akbari*³.

The next question is about the times of the Sena kings. The determination of these times largely depends upon the ascertainment of Lakṣmaṇasena's rule. For the beginning of Lakṣmaṇasena's rule various dates have been given A.D. 1106,⁴ 1119-20,⁵ 1170,⁶ and 1172.⁷ On account of conflicting data, the solution of the problem is not free from doubts.

The first historical fact to be noted is an era, known as **Laksmansena Era.** Lakṣmaṇasena's samvat, abbreviated to 𑀓𑀸. This era is still used in Mithilā, and

¹ Of the *Dāna-sāgara*, extracts from three MSS. are available (R. L. Mitra, Notices of Sanskrit MSS. I, p. 151; Eggelling, India office MSS. Catalogue, p. 545; and "Notices," 2nd Series by Haraprasād Oṣtri, Vol. I, p. 170). Of the *Adbhuta-sāgara* extract from one MS. is known, Report on Sanskrit MSS., Dr. E. G. Bhaṅḍārkar, 1897, pp. 83-85.

² J.A.S.B., XLVII, pp. 398, 402.

³ Jarrett's Transl. Vol. II, p. 146.

⁴ J.A.S.B. XLVII, p. 398; *Vallāla-caritaṃ*, Adh. 27, çl. 4, p. 121.

⁵ Epig. Ind. Vol. I, p. 306; J.A.S.B., LXIX, p. 62.

⁶ J.A.S.B., LXV, p. 31.

⁷ Report on Sanskrit MSS. in Bombay, 1897, p. LXXXVIII

according to some modern calculations it began in A.D. 1106. But calculating from six of the earliest dates (five in MSS. and one in inscription), Prof. Kielhorn arrived at the conclusion that the era really began in A.D. 1119-20. According to him the La° Sa° was an ordinary southern (*Kārttikādi*) year with the amānta scheme of lunar fortnight; and the first day of the era was *Kārttika sudi* one of the expired *çaka* year 1041=7th October A.D. 1119.¹ I think this is a right conclusion, *particularly as it is supported by a statement in the Akbar-nāma*² and other evidences.

The era is generally taken to begin from the first year of

The era taken to begin from his first year. Lakṣmaṇasena's reign which, according to an anecdote in the *Ṭabaḳāt-i-Nāṣiri*,³ began with his birth. But this view is open to

Objections. serious objections. Firstly, it involves the assumption of a rule of more than eighty years—a fact unprecedented in Indian history and I suppose in the recorded history of the world too, even if the rule began from his birth. Moreover, in the *Adbhuta-sāgara* Ballālasena is described to have raised his son to the throne before his own death.⁴ If so, Lakṣmaṇasena must have been of same age at the time of accession; and his reign for more than eighty years becomes still less credible. Secondly, in the MSS., the *Dāna-sāgara* is said to have been composed by Vallālasena in *Çaka* year *Çaḍi-nava-daça* (1091); while the *Adbhuta-sāgara* is said to have been begun by Ballālasena in the *Çaka* year *Kha-nava-kh-end-vābde* (1090).⁵ These show that Ballālasena was reigning in *Çaka* 1090 and 1091 (A.D. 1168-69 and 1169-70), which is incompatible with the assumption of Lakṣmaṇasena's rule beginning in A.D. 1119-20. The MS. of *Adbhuta-sāgara* distinctly says that though begun by Ballālasena, it was completed by his son Lakṣmaṇasena, whom he (Ballāla) raised to the throne before his death. If this be true, Lakṣmaṇasena could not, possibly, have been king before A.D. 1168-69. Thirdly, it is curious to find that not a single date in the Lakṣmaṇasena era has yet been found earlier than 51, *i.e.*, earlier than A.D. 1170-1.⁶

The wording of the two inscriptions in this era. The two known inscriptions of this era are peculiarly worded, and run as follows:—

(1) *Çrimal-Lakṣmaṇsenasy-ātīta-rāḷye saṁ 51 Bhādra-dine 29.*⁷

¹ Ind. Ant., XIX (1890), p. 6.; Ep. Ind. I, p. 306, note 6.

² "For example, in Bengal, the era dates from the beginning of the rule of Lachman Sen, from which date till now 465 years have elapsed;" Akbar-nāma, Beveridge's transl, vol. II, pp. 21-2. 465 La. Sa. = 1506 *Çaka* = 1641 V. Saṁvat.

³ Major Raverty's Translation, p. 555.

⁴ Notices of Bombay MSS., 1897, pp. LXXXV-VI.

⁵ Catalogue of India Office MSS., p. 545; and Bom. MSS., 1897, p. LXXXVI.

⁶ Jour. Bom. Br. R.A.S., XVI, p. 358.

⁷ Jour. Bom. Br. R.A.S., XVI, p. 358.

- (2) *Çrīmal-Lakṣmaṇasena-devapādām-atīta-rājye saṁ 74 Vaiçā-kha-vadī 12 Gurau.*¹

Literally, these would mean—" years 51 or 74 expired of Lakṣmaṇasena's reign," i.e., his regnal years. But may not the years really refer to that of a general era which fell in that king's reign? Several such instances are known in Indian epigraphy, e.g.—

- (1) In the Junāgaṛh inscription of Rudradāman—
l. 4—"Rudradāmno varshe dvi-saptatitame 70 2."²
- (2) In the Gaṛhvā inscription of Candragupta II—
l. 10—"Çrī-Candragupta-rājya saṁvatsare 80 8."³
- (3) Bilsār inscription of Dhruvaçarman—
l. 6—"Çrī-Kumāraguptasy-ābhivarddhamāna-vijaya-rājya-saṁvatsare śaṅ-ṇavate."⁴
- (4) Gaṛhvā inscription of Kumāragupta I—
l. 2—"Çrī-Kumāragupta-rājya-saṁvatsare 90 8."⁵
- (5) Kosam inscription of Bhīmaçarman—
l. 1—"Mahārājasya Çrī-Bhīmaçarmanah saṁvat 100 30 9."⁶
- (6) Halsi plates of Kākusthavarman—
l. 4—"Sva-rājyayike aṅgītāme saṁvatsare."⁷

In (1) the year is referred to Çaka era and in (2) to (5) the years to Gupta era; they are not considered to be regnal years.

More facts are needed to arrive at a reliable conclusion. On the existing data the safest theory at present is to take the first year of the era as the first year of the dynastic founder, and to believe that on the accession of Lakṣmaṇasena, the era was either formally adopted or made so widely prevalent that the era came to be known as Lakṣmaṇasena's. This theory meets the objections above raised on the ground of length of years or the dates of compilation of the *Dāna-sāgara* and the *Adbhuta-sāgara*. It also helps to explain the following additional facts:—

In the Deopārā inscription, v. 20, Vijayasena is described to have assailed the lord of Gauda, to have put down the prince of Kāmarūpa and defeated the Kālīnga. In the succeeding verse, 21,

¹ Ind. Ant. X, p. 346.

² Ep. Ind., VIII., p. 41 and note 6.

³ Fleet's Gupta Inscriptions, p. 37.

⁴ " " " p. 43.

⁵ " " " p. 41.

⁶ " " " p. 267.

⁷ Ind. Ant. VI, p. 23.

are named Nānya, Rāghava, Vardhana and Vira, as (kings) who were kept in prison.¹ Presumably these names include the names of the defeated kings. Who was the defeated king of Kālīṅga? Is he Rāghava? Such was undoubtedly the name of a Kālīṅga king who ruled between A.D. 1156-1171.² The early years of Rāghava (A.D. 1156-60) would fit in with the last years of Vijayasena, if the above view be adopted.

According to Ṭabakāt-i-Nāṣiri,³ the news of the victories of Muḥammad-i-Bakht-yār and of his conquest of Bihār reached the ears of Rāe Lakhmaṇiah, when he had been on the throne for a period of eighty years; and the following year he invaded the Rāe's capital Nūdiah and sacked it. Now, a rule of eighty years and more is not in itself credible, as I have already pointed out. But if the year be taken as Saṃvat 80 of the era during the reign of Lakṣmaṇasena, as Professor Kielhorn pointed out,⁴ the incredibility disappears. This would make the inroad and the sack of Nūdiah fall in Saṃvat 81 or A.D. 1199-1200. This date very nearly agrees with the date arrived at from Mussulman histories by Dr. Blochmann, as A.H. 594 or A.D. 1198.⁵

No doubt Major Raverty held the date of inroad as A.H. 590 or A.D. 1194,⁶ because Muḥammad-i-Bakht-yār who died in A.H. 602 is said to have reigned 12 years. But this does not necessarily mean 12 years after his sacking of Nūdiah; it may as likely refer to the time of his first charge, when holding the fief of Kaṣhmandī (or Bhugwat and Bhiūli).⁷ On the other hand, Dihli was occupied in A.H. 589, and Dr. Blochmann shewed that after this occupation various events occurred with respect to Muḥammad-i-Bakht-yār which would have taken several years. "It would, indeed, be a close computation if we allowed but five years for the above events, *i.e.*, if we fixed the conquest of Bengal as having taken place in 594 H., or A.D. 1198."⁸

Lakṣmaṇasena's reign came to an end shortly after Muḥammad-i-Bakht-yār's inroad.⁹ From the introduction to *Sadūkti-karṇāmṛta*, it does not appear that Ṣṛidharadāsa was *Mahāmaṇḍalika* under Lakṣmaṇasena, though he says his father had served him.¹⁰ Evidently therefore this king did not live at the time of composing that work in A.D. 1205-6. 1200 A.D. might accordingly be taken as the approximate termination of Lakṣmaṇasena's rule.

¹ Ep. Ind. I, p. 309, lines 19-20.

² J. As. Soc. Beng., LXXII, p. 113.

³ Transl. pp 554, 555, 557.

⁴ Ind. Ant., XIX, p. 7.

⁵ J.A.S.B., XLV, p. 276.

⁶ Tab. Nāṣ transl., note 4 below p. 559, note 8 below p. 573.

⁷ " pp. 549-550.

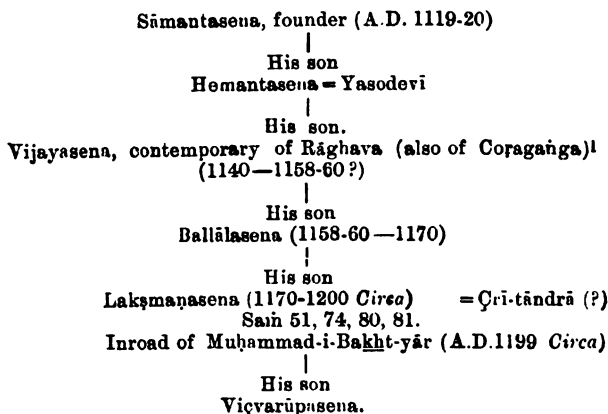
⁸ J.A.S.B., XLV, p. 276.

⁹ Transl., p. 558.

¹⁰ R. L. Mitra, Notices of Sanskrit MSS., III, p. 141.

Chronology of the Sena Kings.

To summarise, the chronology of the Sena kings would then stand as follows:—



It is noted in the *Ṭabakāt-i-Nāsirī*: "His [Lakhmaniah's] descendants, up to this time, are rulers in the country of Bang."² By "up to this time," I suppose, is meant either the years in which the author was in Bengal, A.H., 641-2 (A.D. 1244-5) or the year in which it was finished A.H. 658 (A.D. 1260).

Some discussion took place in the time of Dr. Rājendralāl

Their caste.

Mitra as to the caste of the Sena kings. In the Deopārā inscription of Vijayasena, Sāmantasena is described as "*Brahma-Kṣatriy-ānām kula-çiro-dāma.*"³ The same term *Brahma-Kṣatra* is used in the *Vallāla-caritaṁ* for these kings.⁴

What does *Brahma-Kṣatra* mean? Prof. Kielhorn translated the above passage "head-garland of the clans of Brāhmaṇas and Kṣatriyas."⁵ In *Çuka-sandeça* v. 34, Keraḷa land is described as "*Brahma-kṣatram janapadam;*" and in note 11, the word is taken to mean "Brāhman-kinged."⁶ Were the Sena kings then Brāhmaṇised Kṣatriyas? In the inscriptions they are said to be of lunar race.

Did the founder come from the south? In the Deopārā inscription it is said that in the lunar race

Their origin.

arose Dākṣiṇātya rulers, Virasena and the rest (v. 4); that in that Sena family was born Sāmantasena (v. 5) who singly killed the robbers of Karṇāṭa (v. 8), and who in his old age frequented the hermitages on the banks of the Ganges

¹ *Vallāla-caritaṁ*, Adh. 12, v. 52, p. 61.

² Transl., p. 558.

³ Ep. Ind., I, p. 306.

⁴ *Adhyāya* 12, v. 54, p. 61; cf. v. 45.

⁵ Ep. Ind., I, p. 312.

⁶ J.R.A.S., 1884, p. 409; for note 11, pp. 433-4.

(v. 9) ; and that from him was born Hemantasena (v. 10). With this may be compared Dhoyika's selection of the southerly breeze, and his high eulogy of the *Cola*-land as the ornament of the south. Is it likely that Sāmantasena is connected with Coṛagaṅga of Kaliṅga? Coṛagaṅga conquered and apparently killed the Mandāra king on the bank of the Ganges (Mandāra seems identifiable with Suhma), after he had conquered Utkala¹; and Utkala must have been conquered by him several years before Çaka 1040 (A. D. 1118-9), an inscription of which year describes him as "*sakal-Otkala-sām-rājya-padaṅgī-virājmānīh.*"² Is it therefore possible to infer that Coṛagaṅga, after killing the king of Suhma, put Sāmantasena in charge as feudatory?

¹ J.A.S.B., 1895, p. 139, note 1; Do. 1896, p. 241; cf. also J.A.S.B. 1903, p. 110.

² Ind. Ant. XVIII, p. 169.

INDEX OF PROPER NAMES.

[The numeral figures refer to the number of verses.]

- Uraga-pura*, a town,—8, cf. 10.
Kanaka-nagara, Gandharva town—1.
Kavi-narapati,—103 (cf. colophon).
Kavi-Kṛmābhṛtām Cakravartī, (title)
 —101.
Kāñci, town—12, 15.
Kāliṅga-nagara, town—21.
Kāveri, river—15.
Kuvalayavati, the heroine,— 2, 62.
Keraḷi, nation—16, 26.
Goṅḡā, river—16, 27, 32, 39, 102, cf.
 33.
Godāvarika, residents of river Godā-
 vari—21.
Gauda-deṣa, country—6.
Gauḍa-rāja—96.
Gauḍa-Kṣauṇi king of Gauda—5.
Gauḍendra king of Gauda—101.
Candan-ādri, Malaya hill range—1.
Coḷa, nation—14.
Tapana-tanayā, river Jamunā—33.
Tāmrparṇi, river—8.
Dākṣiṇātya, tract—17, 63.
Deva-rājya, country—28.
Dhoyika, poet—101.
Dhoyi-Kavirāja, poet (with title)—
 colophon.
Pañcāsara, tank—19.
Pāṇḍa-deṣa, country—8.
Bhāgirathi, river—33.
Bhujaga-pura, town—10.
Malaya, a hill range—
Malaya-kaṭāka—63.
Malaya-kṣmādhara,—5, cf. 1.
Malayaja-rajah—71.
Malaya-pavana—3, 85.
Malaya-muruta—9, 92.
Malaya-opatyakā—62, 88.
Māsyakarni, saint,—19.
Mālyavanta, hill range—18.
Yayāti-nagari, town—26.
Rāmeṣvara, god and place—11.
Revā, river Narmmadā—25.
Laṅkā-dvīpa, Ceylon Island—10.
Lakṣmaṇa, the king and hero—2.
Lopāmudrā, wife of Agastya Rṣi—44.
Vindhya, a range of hills—23, 24.
Vijayapura, capital—36.
Qavari, tribe—25.
Qri-khaṇḍ-ādri, hill—8, 62.
Sena-ānvaya, the Sena dynasty—23.
Suhma, country—27.
Sva-rnadī, river Ganges—30.

पवन-दूतः(१) ।

श्रीरामाय नमः ॥

अस्ति श्रीमत्खिलवसुधासन्दरे चन्दनाद्रौ
गन्धर्व्वाणां कनकनगरी नाम रम्यो निवासः ।
शैमैर्जीवाभवगशिशुरैरम्बरं व्यालिखद्भि-
र्धत्ते आखानगरगणनां यः सुराणां पुरस्य ॥ १ ॥
तस्मिन्नेका कुवलयवती नाम गन्धर्व्वकन्या
मन्ये जैत्रं ऋदु कुसुमतोऽप्यायुधं या स्मरस्य ।
वृद्धा देवं सुवनविजये लक्ष्यां क्षौण्णिकपाणं
बाला सद्यः कुसुमधनुषः संविधेयीवभूव ॥ २ ॥
बाल्यादासौष्वपि मगसिजं सानभिव्यञ्जयन्ती
पाण्डुक्षामा कतिचिदनयत् कातरा वासराणि ।
गन्तुं देशान्तरमथमधावन्यथैव प्रसृतं
गाढोत्करुहा मलयपवनं सप्रणामं ययाचे ॥ ३ ॥
त्वत्तः प्रायाः सकलजगतां दक्षिणार्धं प्रकृत्वा
जङ्गलं(ण) त्वां पवन मगसोऽनन्तरं व्याहरन्ति ।
तस्मादेव त्वयि खलु मया संप्रणीतोऽर्थिभावः
प्रायो भिक्षा भवति विप्रजा नैव युष्मद्विधेषु ॥ ४ ॥ (Fol. 1^b)
वीक्षा(क्षा)वस्थां विरहविधुरां रामचन्द्रस्य ह्येतो-
र्जातः पारं पवन सरितां पत्युरप्याङ्गनेयः ।
सत्तातस्याप्रतिहतगतेर्यास्यतस्ते मदर्थं
गौडौक्षौण्णौ कति नु मलयस्माधराद्योजनानि ॥ ५ ॥
तत्रावश्यं कुसुमसमये स त्वया श्रीजनीयः
सान्द्रोद्यानस्थमितगगनप्राङ्गणे गौडदेशः ।

तग्मे (ऽ*)वस्थां कथय नृपतेर्जी(र्जी)वनत्रायहेतोः
 प्रादुर्भावास्त्रजगति खलु त्वादृशानां परार्थः ॥ ६ ॥
 हृत्वागर्धं परिमणमितच्चन्दनागोहृका(कहा)नां
 तूर्यं तावद्विह्वजमलयोपत्यकाकानगानि ।
 यावन्नैते निधुवनकलाकेलिभाजो मुजङ्गा
 भोग्याजापुलुकसुल(सु)कं मत्सुरास्त्वां पिवन्ति ॥ ७ ॥
 श्रीखण्डाद्रेः परिसरमतिक्रम्य गव्यूतिमात्रं
 गन्तव्यस्ते किमपि जगतीमण्डनं पाण्डदेशः ।
 तत्र ख्यातं पुरमुरगमित्याख्यया ताम्पपर्या-
 क्तौरे मुग्धकमुकतबभिर्व्वद्धरेखैर्भजेथाः ॥ ८ ॥
 सम्भोगान्ते स्मयमुजकतानिःसहानां बधूनां (Fol. 2*)
 व्याधुन्वन्तो (ऽ*)नुचितकवरो-भारमथ्याजमुग्धं ।
 अस्मिन् सद्यः श्रमजकनुदः सौधजालैरुपेत्य
 प्रत्यासन्ना मलयमबसक्ताजहन्तीभवन्ति ॥ ९ ॥
 श्रीडाशैलं मुजगनगरीयोषितां कौतुकश्चेत्
 सेतुं याया जलधिकिरणः प्रदृष्टलादामदीर्घं ।
 भाति स्नेहादवनितल(न)याजौवनाम्बासहेतो-
 र्ङ्गाद्वीपं प्रहित इव यो वाङ्मुरेकः पृथिव्याः ॥ १० ॥
 क्रुध्यद्वैरी(कर*)किश(स)लयाकृष्टचूडासुधांशो-
 द्र(द्र)क्ष्यस्यूचैः फल(पद ?)मकलुषं तत्र रामेश्वरस्य ।
 मे(म)ध्वं यत्र त्रिवलिविषमं वारसौमन्तिगौगां
 हस्तोत्कम्पं कथयति विधेः हृष्टकाक्षीपदस्य ॥ ११ ॥
 कौलागै(गा)रैरमरनगरस्यापि गर्व्वं हरन्तीं
 गण्डेः काक्षीपुरमथ दिशो भूषणं दक्षिणस्याः ।
 गङ्गां यत्र प्रहरिक इवोष्जागरं नागराणां
 कुर्व्वन् प्रा(पा)ण्णिप्रणिह(हि)तधनुर्कार्यते पञ्चवाणः ॥ १२ ॥
 आत्मनो(त्वं ?)लि(लौ)काविहसितमिव श्यावतामप्युपेता

सद्यः फेणथतिकरमिषादर्पयत्वं शुकान्तं ।
 अम्भःक्रोड़ाकुतुकर (Fol. 2^b) भसभष्टचोनेात्तरीवे
 यद्गारोयासुरसि सुवला वीचिहस्तैः सखीव ॥ १३ ॥
 मन्वे मोक्षः कठिनसुरतायासकव्यस्य तूयां
 दुष्या(ष्पा)पस्ते पवन भविता चोषसीमन्तिनीभ्यः (1*)
 के वा तासामलकरचनाकौ(गी)लक्षीलासनाद्ये
 गच्छामोगे मलयजपयः पिच्छ्रले न रूखन्ति ॥ १४ ॥
 हित्वा कि(का)श्चीमविष(न)यवतीमुक्तरोधोनिकुम्भान्
 तां कावेरीमनुसर खगत्रेणियावाचानकूनां ।
 कान्तास्त्रेवादिपि खलु सुखस्पर्शमिन्दुत्विषोऽपि
 खच्छं भिक्षाप्रवण(श)मनसो(ऽ*)प्यम्बु यस्या लक्ष्मीयः ॥ १५ ॥
 या गङ्गेव प्रकृतिमुभगा जायते केरकीनां
 केलिस्नाने कुचमलयजैः पाण्डुमानं दधाना ।
 त्र(श)श्चद्रोत्ररूखलमनितत्रासलोलस्य सिन्धो-
 रक्षीचिञ्चूरणपतनप्रेमवाचां रसज्ञा ॥ १६ ॥
 तस्या लीलासरित इव ताः खोतसि श्रोत्रिदाज्ञा
 तोय(: *) क्रीडां यदि विदधते दाक्षिणात्यास्तदख्यः ।
 वीचिज्ञेपैः स्तनपरिसरेष्वस्तहारेषु तासां
 मुक्तागालं रचय तदपां विन्दुभिः कुन्दगौरैः ॥ १७ ॥
 लि(Fol. 3^a)ग्धा(ग्ध)श्यामं गुहभिरुपलैः पर्वतं माल्यवर्णं
 पश्येत्त(त्त)म्भितमिव पुरः केशपाशं पृथिव्याः ।
 तत्राद्यापि प्रतिस(भ्र ?)रजलैर्जर्जराः प्रख्यभागाः
 सीताभर्तुः पृथुतरशुभ्रः सूचयन्त्यश्रुपातान् ॥ १८ ॥
 रन्धोपान्तं सरणतवभिर्मास्यकरोः सरस्तद्व-
 ष्णैः पञ्चासुर इति हृतप्रौढतापं मघोनः ।
 यत्राद्यापि त्रिदशतवयोमुग्धसङ्गीतिमासाः
 पूर्वप्रेमोपगतहरिणश्रेणिसुत्कण्ठयन्ति ॥ १९ ॥

क्रीडाशोकक्रमुकबज्जकारामरन्धोपकण्ठाः
 संपत्स्यन्ते पथि पथि तव प्रीतये प्रस्थितस्य ।
 पीनोत्तुङ्गस्तनभरनमत्पामरीप्रेमकोभा-
 म्निर्व्विच्छेदभमितपथिकाः पक्षयः पक्षकित्थः ॥ २० ॥
 रग्भान् हित्वा जलनिवि(धि)ड(d)पवधूगाङ्गोदावरीकान्
 कालिकुस्यानुसर नगरीं नाम तां राजधानीं ।
 संभोगान्ते मुकुसितद(दृ)शां तत्र वाराङ्गनाभा-
 मङ्गलानि हर परिपतन् केलिवातायनेषु ॥ २१ ॥
 खे(खेल)द्वीचिप्रचयरचितानेकसोपानरेखं
 तीरं यायाः पक्ष(Fol. 3^b)भरनमत्पूगमाणं पयोधेः ।
 गायन्तीनां श्रवणसुभगं तत्र सिद्धाङ्गनानां
 स्थाने स्थाने जनय शनकैस्तानशब्दानुवादान् ॥ २२ ॥
 कुङ्कुमक्रीडात्रिदशतख्योकेकिनिम्बासवाते-
 म्मा(कां)पदस्त्रीकिश(स)लयरुचो निर्व्विशेर्व्विन्ध्यपाका(दा)म् ।
 पश्यन् वक्रान्धनतिचतुरवारसौमन्तिनीनां
 माद्यङ्गन्धद्विरदरसितत्रासका(को)लेक्ष्णानि ॥ २३ ॥
 खेच्छारन्धं विह्वर विह्वगव्याकुलसुकुण्डलो
 विन्ध्योत्सुकप्रणयिनि वने मानवयो(S*)पि यत्र ।
 संजायन्ते रहसि करिषां क्रु(क्रू)रमाकर्ष्यं शब्दं
 भर्तुः (कण्ठ*)प्रणिहितभुजावक्त्रयो भिन्नयोषाः ॥ २४ ॥
 खैरक्रीडारसिकुशवरीसिक्करोधोगिकुङ्कं
 गच्छेदेवामभिनवमुकश्यामवंश्रीवलेग ।
 मन्थन्ते यत्परिसरसुवि प्रौढसौमन्तिनीनां
 लीलामागग्रहमपि रतेरन्तरायं युवानः ॥ २५ ॥
 लीलां नेतुं नयनपदवीं केरलीनां रतेच्छेत्
 गच्छेः स्थितां जगति नगरीमाख्यया तां ययातेः ।
 ग्रादाश(स्त्रि)कृकमुकतरवः प्राङ्गणे नागवक्त्रोः(क्षत्र)

बाणां यत्र प्रियतमपरीरम्भमध्यापयन्ति । २६ ॥
 गङ्गावोचिभ्रुतपरिसरः सौधमाणावतं (Fol. 4^a)-
 वास्यत्पुष्पैस्त्वयि रसमयो विस्मयं सुहृद्देशः ।
 श्रोत्रक्रीडाभरणपदवीं भूमिदेवाङ्गनां
 ताक्षीपत्रं नवश्लिषिकलाकोमलं यत्र याति । २७ ॥
 तस्मिन् सेनान्ययन्तपतिना देवराज्याभिषिक्तो
 देवः सु(सा)द्याइसति कमलाकेषिकारो सुरारिः ।
 पाणौ लोलाकमलमश्रु(स)कथत्-समीपे वहन्थो
 कष्पीशङ्गां प्रकृतिमुभयाः कुर्वते वाररामाः । २८ ॥
 यातस्यो(स्यो)द्धं धनपतिनगेनैव मौ(सौ)धैरगारैः
 पश्येत्तस्मिन्नगरमनघं चाबध्नाडमो(मौ)लेः ।
 यत्रानेकप्रियसख (d) नखपदव्याजतोवाररामाः
 मर्त्तुर्भूषाश्रधरकलाचिह्नमङ्गे वहन्ति । २९ ॥
 तत्रानघ्यं रघुकुलगुणं स्वर्ग(र्ग)दीतीरदेशे
 गत्वा देवं ब्रज गिरिसुतासंविभक्ताङ्गरथं ।
 याते यस्मिन्नयनपदवीं सुन्दरखलतानां
 प्रौढस्त्रीणां गकति म(d)र(म)शप्रेमजन्माभिमानः । ३० ॥
 तत्क्षेत्रञ्च (Fol. 4^b) त्रिदिवसरितस्नानरा सेवनीयः
 श्रोवन्धानक्षितिपतियशोवान्धवः सेतुबन्धः ।
 आबुधानां त्रिदिवतटिनीखानहेतोर्जनां
 यत्र द्वेषाप्यमरनमरौ सन्निकृष्टा विभाति । ३१ ॥
 मङ्गलं पेनस्तवकमुकुरं वीचिहस्ते वहन्तीं
 सेवेद्यास्तामघ परिसरपौढहंसावतंसां ।
 प्रत्याहृत्य ब्रजति जकधौ प्रेयसि प्रेमकोजा
 कर्त्तुं केशय इमिव किमप्युद्धता या विभाति । ३२ ॥
 तीर्थक्रीडासरसनिपतत्(०त)द्वृत्रस्यसौमन्तिनीनां
 वीचिधौतैः सानन्दमन्दैः श्लामलौभूष भूषः ।

भागीरथ्यास्तपनतनया यत्र निर्याति देवी
 देशं यायास्तमथ जगतीपावनं भक्तिनमः ॥ ११ ॥
 संसर्पन्तीं प्रकृतिकुटिलां दर्शितावर्षचक्रां
 तामाशोक्त्वा त्रिदशसरितो निर्गद(ताम)म्बुगर्भात् ।
 सा(मा ?) निर्मुक्तासितप्रखिबधूश्रया कातरा(रो) भू-
 र्भौतः सर्वो भवति मुजगात् किं पुनस्त्वदृशो यः ॥ १४ ॥
 क्रौडन्तीनां पयसि रमसात्तत्र लीलावतीनां
 वीची(चि)हस्रै रचय कुचयोरंशुकखंसनानि ।
 सद्यस्तासामपि च रमयाशोकनव्याकुलानां
 यान्तु क्रौडा (Fol. 5^a) मख्यहसितान्युत्तरीयाश्चलन्त्वं ॥ १५ ॥
 स(स्त)न्धावारं विजयपुरमित्युग्रतां राजधानीं
 वृद्धा तावद्भुवनजयिनस्तस्य राज्ञोऽधिगच्छेः ।
 गङ्गावातस्त्वमिव चतुरो यत्र पौराङ्गानां
 सन्भोगान्ते सपदि वितनोत्सकसंवाहनानि ॥ १६ ॥
 यत्सौधानामुपरि वड्ढभीशाकभङ्गोषु लीलाः
 सुखिगधाषु प्रकृतिमधुराः केलिकौतूहलेन ।
 उग्रोयन्ते कथमपि रहः पाण्डिपङ्केबहाय-
 स्पर्शोद्गच्छत्पुलकमुकुलाः सुभ्रुवो बक्षमेन ॥ १७ ॥
 खिगधय्यामा रमयमान(मखि)भिर्बहुमुग्धासवालाः
 पौरस्त्रीभिः क्रमुकतरवो रोपिताः प्राङ्गणेषु ।
 यत्रायत्नोपगतसलिलैर्नक्तमासिक्तमूला
 नापेक्ष्यन्ते परिजनबधूपान्णिविश्रोखिताम्भः ॥ १८ ॥
 गङ्गास्त्रे(स्त्रे)षुप्रकृतिविमले पालिते तेन राज्ञा
 जाता लोकाद्वितयविगलङ्गीतयो यत्र पौराः ।
 बाबा भ्योऽथ प्रणयककण्ठे रुढकोपाङ्गुरे(रा)भ्या(भ्यो)
 विप्रस्यन्ति स्फुटिरचनाचारभौमानगाभः ॥ १९ ॥
 खातुं कर्षात् प्रखिहितपदं साङ्गनैरश्रुलेषु-

दं ताप (Fol. 5^b) स्तपितविसिनीतन्तुना बन्धनेन ।
 यत्र स्त्रीयामधरश्चकन्यस्तसिन्धुरमुद्रं
 ताजोपत्रं प्रखयिनि जने प्रेमलेखत्वमेति ॥ १० ॥
 भर्तुः खैरं सुरतनगितखेदविन्दून् विनेतुं
 यत्र खेदादगणितविजगत्सामिभिर्मुग्धदरैः ।
 सौधा(धो)स्तप्ते श्रद्धधरश्चकन्युगाक्षप्रविष्टा
 व्याहृ(ह्य)व्यन्ते बधिरचमरोवाकभारभ्रमेण ॥ ११ ॥
 बद्धोद्गाय स्तनपरिसराः कुङ्कुमस्याङ्गरागा
 दोषाः केषियसगरसिकाः सुन्दरोषां समूहः(हाः) ।
 क्रीडावाप्यः प्रतनुसजिषा माजतीदाम रात्रिः
 स्थागण्योत्पन्ना मुदमविरतं कुर्वते यत्र यूयां ॥ १२ ॥
 भ्राम्यन्तीनां भ्र(त ?)मसि निविष्टे बल्लभाकाङ्क्षिणीनां
 जाह्नवारा(गा*)श्चरखगणिताः पौरसीमन्तिनीनां ।
 रक्षाशोकस्तवककलितैर्जालभागोर्मयूखै-
 र्जालक्ष्यन्ते रक्षनिविगमे पौरमार्गेषु यत्र ॥ १३ ॥
 रत्नैर्मृत्तामरकतमहागोससौगन्धि (Fol. 6^a) काद्यैः
 शृङ्खेर्जालावलयरचनाबन्धु(भि *)र्विद्रुमैश्च ।
 जोपासुद्गारमखसुनिना पौतनिःशेषवारः
 ओ(ः)सर्वस्वं हरति विपदं(पुलं) यत्र रत्नाकरस्य ॥ १४ ॥
 मूकौभूतं मरकतमयीं हारयंष्टिं दधाना
 यस्मिन् बाका मृगमदमसोपिच्छिषेय स्तनेषु ।
 चितोवर्षिस्तरुतवहं दीपितं खेहपूरैः
 क्त्वा यान्ति प्रियतममृद्धान्धकारे घनेऽपि ॥ १५ ॥
 शीतं यद्वाद्दिविगणियेः पञ्चताम्भयताश्या
 निर्गच्छन्त्यः सपदि हृदयं क्षालयित्वेव यत्र ।
 कान्ते वादप्रखयिनि भिक्तवृक्षजलश्यामकन्या-
 मुग्धमुग्धन्ते नयनपवनां श्रेयसो मानिनीभिः ॥ १६ ॥

अये तेषां व्यपगतमदः स्यात्तुमेवासमर्थं
 वृष्टा कान्तिं कुसुमधनुषः का कथा विक्रमस्य ।
 सुभ्र(भू) लौकाचतुरनयनक्षेपरस्यैर्व्विंशसै-
 र्बस्मिन् यातास्तदपि सुवृष्टां किंकरत्वं युवानः । १७ ।
 त्वय्यासीने मनसिजगु(Fol. 6^b)रौ यत्र सारङ्गनेषाः
 संदृश्यन्ते रचितचतुरोद्यानदोलाबिजासाः ।
 अभ्यस्यन्थः सरभसमिव शोमकान्तारयानं
 कन्दर्पस्य त्रिदिवयुवतीं जेतुकामस्य सेनाः । १८ ।
 प्रासादानां दिनपरिखतौ(ग *)र्भदग्धागुह्यां
 जाकोद्वीर्याः (स *)जलजसदश्यामजो यत्र धूमः ।
 सद्यः क्रौडा कुत(तु)करभसाहृदपौरौमुखेन्दु-
 ष्योत्त्रासङ्गप्रह्वमरतमः श्रेणिशृङ्गां तनोति । १९ ।
 व्यर्थोभूतप्रियसहस्ररीचारावाचां निश्रीये
 रोषादस्त्रीकृतकुवलयोत्सवित्रंसि माल्यं ।
 मूखां यत्र प्रथयककहं केलिहन्मियायभाजा-
 मिन्दुः प्रत्यादिशति सविधोभूय शश्वत् करेण । २० ।
 तत्र खेच्छारतिविनिमये चैव सौमन्तिगोणां
 कर्ष्यन्सि प्रह्वतिसुभगं केतकोगर्भपत्रं ।
 उत्पश्यन्ति यतिकारचलत्कुण्डलाघट्टनाभि- [२१ ।
 र्मिन्नं साक्षादिव मुखविधोः खण्डमेकं विद(Fol. 7^a)ग्धाः ।
 वाचः श्रोत्रान्मृतमशुगतभ्रूविजासाः काटाक्षा
 रूपं हस्तोच्चयसमुदितं द(खि)ग्धमुग्धाश्च हाराभवाः) ।
 मातं लौकाश्चितमकृतकं यत्र नेपथ्यमेतत्
 पौरस्त्रीणां त्रिविधसुखभा प्रक्रिया भूषणश्च । २२ ।
 पुञ्जीभूतं जगदिव ततः सप्तकक्षागिवेशै
 र्म्यं वाचा भवगभवनीमख्खालख्खलस्य ।
 वत्सौधानां श्रिखि(ख)रिसुहृदां मूर्द्धिं विजान्तमेधे

विद्युहोष्ठा वितरति मुहुर्वैगयन्तीविषासं । ५३ ॥
 खिग्धश्यामैरिव विरचिता दारि(द्रावि ?)तैरिन्द्रगोले-
 व्वर्गपी तस्मिन्नवनिवनितारम्यरोमावलीव ।
 यस्यास्तीरे विहरदनतिप्रौठसौमन्तिगोनां
 मन्ये जीलागतिषु गुरवो राजहंसा भवन्ति । ५४ ॥
 देवं साक्षान्मनसिजमिव प्राप्तराज्याभिषेकं
 सेवेयास्त्वं व्यथितसमये चामरग्राहियौभिः ।
 यस्य खिग्धस्फुरदसिक्ततास्मा(धा)रगत्या जनानां
 कव्यः संख्ये रिपुकुलवधूलोचने संविभागाः(गः) । ५५ ॥
 बस्थीसुषुम्बादसमसमराजोक्तनोन्म(न्मा)दभागां
 खर्गस्त्रीश्यामपरिगणितखस्तलोलाक्षना(ला)नां ।
 मन्ये राधाचतुरतुरगोत्खातरेणुप्रतानः
 सद्यो कम्पः स्तनककसथोरन्तरीयत्वमेति । ५६ ॥
 सुमयोवं मुञ्जविल(स)स(न)तासक्तवक्त्राङ्गजा (Fol. 7^b) भिः
 सोऽथं सेवा(ना)न्ययन्त्य इति त्रासकौतूहलाभ्यां ।
 विव्यक्त पीतः कुवलय(दल *)श्रेण्णिदोर्ध्वैः कटाक्षैः
 पौरस्त्रीभिः सपदि नगरीविभ्रवे विद्विषां यः । ५७ ॥
 बद्धस्त(द्वाक ?)न्दा विहगबदितैर्विभ्रतो चेतसोव
 क्रीडामारे सुचिरलिखितामाक्षतिं बद्धभस्य ।
 प्रौढारामायदरिनगरी सौधसंजातदुर्व्वा-
 नाक्षयाजादलकपटलीं दूरगन्धां विभर्षि । ५८ ॥
 क्रीडारोषे सुतशुवचनाहन्यमानस्य पक्षुः
 प्रत्सुङ्क्ष्वत्पुष्पकपटलेनापि बाधां दधाना ।
 भ्रान्त्यस्यज्ज्वलनमुवि कथं क्ररदर्भाङ्गराया-
 मेवंप्राया यदरिनगरीशारिकायां विलासः(पः) । ५९ ॥
 तस्मिन्काले क्वचिदपि स श्रेयासरस्य जिभागं
 राजा शक्तो गमयति रहस्विन्तयाग्या(यज्ञ ?)न्तरायान् ।

सन्देशो मे न पवन तदा किञ्चिदावेदनीयः
 कार्योत्तमे मनसि लभते नावकाशं विनासः ॥ ६० ॥
 आसाद्यातः कमपि समयं सौम्य वस्तुं विविक्षे
 देवं नीचैर्विनयचतुरः कामिनां(नं) प्रक्रमेथाः ।
 अप्यन्येषु प्रणयिभिरभिव्यञ्जितः कार्यभागः
 सिद्धिं गन्तुं प्रसुरवसरे किं पुनः पार्थिवेषु ॥ ६१ ॥
 श्रीखण्डात्रे(Fol. 8^a)र्वसति शिखरे कोऽपि गन्धर्वलोका-
 क्षत्रास्थिका कुललयवती नाम मन्याङ्गनामा ।
 दूतं तस्याः कलयो(य)(मलयो*)पत्यकामावतं मां
 कामिद्वन्द्वं घटयति मिथो विप्रयुक्तं य एकः ॥ ६२ ॥
 जित्वा देव त्वयि सद्भसं दान्तिद्यात्मान् क्षितीशान्
 प्रत्यावृत्ते मलयकटकाञ्चित्तमादाय तस्याः ।
 दूरं याते(न*) किमितरिथाहृत्तिरभ्येति तस्या
 वाष्पोत्पीडा सपदि पदवीं संहरोधेक्ष्यस्य ॥ ६३ ॥
 विन्यस्यायं भुवि चरणयोः कौतुकोत्तम्बिताक्षौ
 त्वत्संपर्कप्रकृतिसुभगामुन्नतयोवमाशां ।
 उत्पश्यन्ती किमपि सुतनुर्लक्ष्यते सौधप्रदङ्गा-
 दुद्भिन्नाश्रुस्थगितमसकृत् त्वत्समीपं यियासुः ॥ ६४ ॥
 यस्मिद(न्) काले नयनविषयं सा (धु ध *) (न्यो)सि गीतः
 शारङ्गाद्या सकल(ललना * ?)शोचना(न *)न्दकारिन् ।
 जाने तस्मात् प्रभृत(ति ?)ननितखान्तसन्तापखेदा
 सा रम्येषु क्वचिदपि न विश्वासमेकान्तमेति ॥ ६५ ॥
 सुष्टिप्राञ्चं किमपि विधिना कुर्वता मध्यभागं
 मन्ये बाणा कुसुमधनुषो निर्भिता काम्मुंकाय ।
 राजद्रुचैर्विरेहजनितक्षामभारं(वं) वहन्ती
 जाता संप्रत्यहह सुतनः सा च मौर्वीजितेव ॥ ६६ ॥ (Fol. 8^b)
 कौटुक(क) कान्तः कथय तरले वर्त्तते बलवात्त-

यत्नादित्यं सुभग वज्रशः पृथुयालीजनेन ।
 निःशस्योच्चैः कथमपि तथा क्षमिताश्रुप्रवाहा
 न्यस्तावृष्टिर्निखितमदने भित्तिभागे गृहस्य ॥ ६७ ॥
 धत्ते सद्यस्त्वदुपगमितप्रेमलेखभ्रमं सा
 तालीपत्रे प्रियसहचरौकर्यापाश्रुतेऽपि ।
 किञ्च क्रीडाशुकमपि (मुञ्जः *) पृच्छति त्वत्पृष्टिं
 मादोद्भूतः क्व खलु गणयत्स्वयं त्वर्थिभावः ॥ ६८ ॥
 नोत्तं सत्त्वं वृष्टमपि नयत्युत्पले बद्धकोपा
 मास्यैः ज्ञान्ता न भुजलतिक्रामप्यसौ संदृशोति ।
 यद्भोद्विधा हृदयनिहितासापसंपत्तिहेतो-
 राणो हस्तादपि च सहसा मि(मौ)लिताक्षौ विभा(भे)ति ॥ ६९ ॥
 अन्धस्यन्ती सरसकुसुमस्रस्तरोः प्रान्तसुप्ता
 शुष्यत्यङ्गप्रकरसफरीसंभ्रमोदसितानि । [वा(ष्ठा)लयन्ती
 धारावास्पं(व्यै) न(र्न)यनगलनी(लितैः)साकता(कुन्तलं ?)
 मन्ये बाणा गमयति पुनः सा कथञ्चिद्दिगानि ॥ ७० ॥
 अन्तस्तापं तुहिनपयसामप्यनुच्छिद्यमाप्य
 त्वत्तो बाणा मलय(ज *)रजः श्रो(सो)तसामप्यसाध्यं ।
 धत्ते निन्दां कुसुमविशिखे(*)त्यन्तसावृष्ट्यमूढा [॥ ७१ ॥
 सुस्थापि स्यात् किमिह विरहव्या(Fol. 9^a)कुला विभ्रमिन्यः
 द्वेषः क्रीडाविपिनवसु(स)तौ चन्दनाम्भोनिषेधः
 प्रत्वास्थानं सरसगलिनौतालवृन्तानिलस्य ।
 जातत्तस्यां कथमपि सखी बुद्धिजस्त(स्व)द्वियोगे
 मूर्च्छाविगद्यपगमविधेरेष एव प्रकारः ॥ ७२ ॥
 धत्ते द्वेषं शशनि कुर्वते न ग्रहं केशहस्ते
 दूरे हारं क्षिपति रमते निन्दया चन्दनस्य ।
 वक्तुं देव त्वयि परमसौ मामा(म)वस्थां कथञ्चि-
 द्दादोद्देशा नयति कविता चिन्तया वासरानि ॥ ७३ ॥

षादौ याते नयनपदवीं स्तम्भयन(न्) पद्ममाणां
 सुम्बन् गण्डस्थलभुवमथो पीतविम्बाधरोष्ठेः(ष्ठः) ।
 कुर्वन् करण्डहय(यह)मपि कुचोत्सङ्गशय्याश्रयान-
 स्तस्या वास्यः किमिव न खलु त्वद्वियोगे करोति । ७३ ।
 शारङ्गाद्या जनयति न यद्भस्मसादङ्गकानि
 त्वद्विज्ञेधे स्मरऊतबहः श्वाससङ्घत्तिपेऽपि ।
 जग्ने तस्याः स खलु नयनद्रोणिवारां प्रभावो
 यद्वा शश्वन्नप तव मनोवर्त्तिनः शीतलस्य ॥ ७५ ॥
 श्रान्तप्राये रजनिसमये किञ्चिदामीनिताञ्छी
 प्राप्य स्वप्ने (प्रे) कथमपि पुरस्वामतिप्रौढरागा ।
 शि(स्त्रि)द्यन्ती त्वां तनुमनुपदं विप्रबुद्धाय वाजा
 क्कालोर्णं बलयति दृशं सा सखीनां मुखेषु ॥ ७६ ॥
 चन्द्रास्या(न्या)सुपवनभुवं दूरतो द्वे(Fol. 9^b)द्वि वाक्सा
 नासापश्च क्वचनकुहते सार्द्धंमालीजनेन ।
 रक्षाहेतोः स्मरविशिखितः केवलं सा वराकौ
 धत्ते जीलापलकसुरसि त्वत्प्रतिच्छन्दशोभिः (भि) ॥ ७७ ॥
 विन्यश्य(स्य)ती शशिनि नयने दुर्दिनैरश्रुवारां
 धाराश्राः(श्रा)सैर्वकुलकुसुमामोदमात्रातुकामा ।
 श्रुश्रुश्रुश्च भ्रमरविरतं मूर्च्छया रक्षितासौ
 वीक्ष्यावस्थां क इव करखाकातरः स्यान्न तस्याः ॥ ७८ ॥
 चैतोदृत्तिः स्मरति करखाविप्रयोगे विरागः
 कोपावेशः कुसुमविशिखे नित्यमामेन्य(?)वद्धा ।
 इत्थं खात्रे स्थितमिव समालम्ब्य चित्रावराकौ
 त्वय्येकान्तस्थिरविरचितं भावमाविष्करोति ॥ ७९ ॥
 प्रागाजायाः प्रतिमुञ्जरपि प्रेमरम्याः सखीनां
 त्वय्येकान्तस्थपगतदये सङ्गमाशापि नैव ।
 तस्याश्चिन्तां(न्ता-) विरहजनितां(ता-) नाथ विष्णा(स्ना)रयन्ती-

सु(उ)चैरेका भवति सततं जीव(वि)तालम्नयाय ॥ ८० ॥

तस्या राजन्ननुभवमन(ना)साद्यहस्तावरोधा-
दूष्ठाभोगे नयनसलिला(ल)स्रोतसा क्षालितेऽपि ।

प्रत्यासन्नः स्तनपरिसरे चेतसा त्वां बहन्त्याः

प्राक्षेयांशुर्द्वपतिककुदच्छत्रभङ्गीं विभक्तिं ॥ ८१ ॥

यातः क्लृप्त(च्छा)तुष्टिन समयः संप्रति त्वत्सकाशा-

दागच्छन्तीं स(प)वन (Fol. 10^a)लहरौमप्यनासा(ला)दयन्त्याः।

कः सम्बन्धे(द्ध) परभृतबधूकेलिवाचाललोले

चैत्रे तस्याः कथय सुभग प्राणरक्षाभ्युपायः ॥ ८२ ॥

भूयोभूयः प्रविशति मनो दास्ये मन्मथाद्यौ

मद्यं वास्याम्बसि नयनयोर्व्वन्धमिन्दीवराण्याः ।

तस्या राजन्ननुविरहस्थाकुलायास्तपस्वी

जातो भस्मच्छुरित इव च क्षामपाण्डुः कपोलः ॥ ८३ ॥

राजा(ग)श्लुब्धैर्वल्लयवगिताकामुक त्वत्सकाशा-

दाशातन्तुर्भवतु सुदृशो दुर्लभः प्रेमतन्तुः ।

कृष्णात्कथं पुनरिदमहो खप्रसङ्गेतदूती

निद्राप्यस्याः क्षणमपि न यन्नेत्रसौमानमेति ॥ ८४ ॥

प्रत्यावृत्ता स्तनपरिसराञ्चन्दनस्त्रीतमूर्त्तिः

श्लासा एव स्मरऊतबहोद्वीपनैकप्रगल्भाः ।

तामुत्कण्ठाकुक्षितदृदयां खेदयन्ति प्रकामं

संप्राप्यन्ते मलयपवनैरेवमेवायशांसि ॥ ८५ ॥

त्वदज्ञानुस्मरणरसिका कातरा च प्रकामं

ज्योत्स्नासेकैर्द्विजपतिमधिद्वेषमा(पा)त्रं करोति ।

किञ्च देष्टि त्रिदशभिषगौ सुन्दर त्वां विचिन्त्य

प्राचेणैवं भवति विधुरासन्नमृत्योर्म्मर्गोषा ॥ ८६ ॥

सा वैरस्यादसितनयना हेमतालीदधा(ला)नां

प्रत्याख्यानात् प्रकृतिसुभगं कर्म(केश ?)पाशं विभक्तिं ।

तद्भाषाणां किमपि सहसा दुर्वलत्वं (Fol. 10^a) विचिन्व
 त्वात् प्रासादुष्मिव मनोजन्मना कार्मुकस्य । ८० ॥
 अप्याजन्मप्रभृतिसुहृदस्वन्द(न *) स्यापराधा-
 दध्यास्ते सा न खलु मलयोपत्यकाकानगानि ।
 किञ्च देवादुपरि मदनस्येव सर्वाङ्गतम्बौ
 बद्धावेशा मनसि रतये नावकाशं ददाति । ८१ ॥
 पीनोद्याने वित(च)रति भृशं यत्रसंरुध्य(द्)वाष्पा(स्या)
 सान्ने चन्द्रार्चिषि निविशते चन्दनाभ्यक्तगात्रौ ।
 क्रीडावापीम(d)भि(d)मरुद(भि *)मुखं धावति थाकुषासौ
 किञ्चा नार्थो रमणविरहे साहसं नाचरन्ति । ८२ ॥
 याता (* :) कण्ठस्थजन्मपि घनश्वासमात्रावशेषा-
 स्तामुत्कण्ठप्रतनुमसवः सर्वथा न त्वजन्ति ।
 सन्ध्या कण्ठप्रणयमथवा तादृशामङ्गनां
 शक्तस्वागे क इव सुवने चैतसा विद्युतोऽपि । ८३ ॥
 क्षीणस्तापो वपुषि विगता नेत्रयोरश्रुधारा
 विस्मान्तानि क्रमकृशतगोरङ्गविद्योपखानि ।
 इत्थं शान्ते विरहजनिते थाधिरागे मृगाण्याः
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 लीलोद्याने परभृतबधूपक्षमैः पीद्यमाने
 ताभ्यन्मूर्त्तिर्मलयमरुता केशिवातायनेषु ।
 सा नैकत्र क्वचिदपि पदं कातराक्षौ विधत्ते
 यत् सत्वं न त्रिसुवनमपि प्रीतये दुष्खि(दुःखि) तानां । ८५ ॥
 सा सर्वत्राप्रतिहतगति (Fol. 11^a) वि(र्वि)द्यया सत्त्वपि त्वां
 प्रत्याख्यानात् सुभग सहसा विभ्यती नाभ्युपैति ।
 राजानो हि प्रकृतिरसवचेतसोऽप्यन्यनारीं
 रुद्रप्रेमप्रवणवनिताभीरवो गो कसन्ति । ८६ ॥
 तस्यास्तीव्रस्मरऊतसुजा दह्यमानाङ्गयष्टे-

न्यस्तं सद्यः स्तनपरिसरे चन्दनं धोषमेति ।
 उक्तेः किम्वा वज्रभिरपदारोपितस्नान्तदृत्ते-
 स्वव्यायत्तः कुण्डलयदृष्टो जीवरक्षाप्रकारः ॥ ६४ ॥
 इत्याख्याते पुण्ड्रकिततनुर्भेदिनीपुष्पकेतुः
 प्रत्युत्थाय प्रणयसुभगं मादृमाश्लिष्यति त्वां ।
 वाक्चरैभिः कर(व)णमख्यैः कोमलत्वं भजन्ते
 यावाणो(ऽ *)पि प्रकृतिसरसः किं पुनस्तादृष्टो यः ॥ ६५ ॥
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 दङ्गल्योऽसौ रक्षति भवता मद्विरा गौडराजः ।
 त्वत्तः श्रोव्यत्ववह्नितमनाः सोऽनुरक्ताङ्गनागां
 जायन्ते हि प्रणयिनि सुधावीचयो वाचिकानि ॥ ६६ ॥
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 तन्नां भक्तिप्रवणमनसं नाद्युष्ट्यासि कस्मात्
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 न्नामासाद्य त्वमयमङ्गथा गोचरे यन्न वाचां । [स्यां
 तत्कुर्वीथाः सुभग न सतां (Fol. 11^b) गर्हशी(खी)या यथा
 कन्याकोके (कं ?) न खलु सुधियो भूषयित्वा त्वजन्ति ॥ ६८ ॥
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 दृष्टस्येव त्रिपुरजयिना पुष्पकेतु(तो)र्भवस्य ।
 राजन्नखु प्रणयचतुरो दूरतः प्रेमबन्धः
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 सन्देष्टोऽयं मनसि निहितः कश्चिदायद्भवा मे
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 नापन्नानां न खलु बहुशः काकुवादान् सङ्गन्ते ॥ १०० ॥

दन्तिव्यूहं कनककलतिकां चामरं हैमदण्डं
 यो गोक्षेत्रादलभत कविष्णाम्भतां चक्रवर्ती ।
 श्रीधोयीकः सकलरसिकप्रीतिहेतोर्म्मगसौ
 काथं सारस्वतमिव (सतन् *) मन्मतेतज्जगाद ॥ १०१ ॥
 गोष्ठौबन्धः सकलकविभिर्वाचि वैदर्भरीति-
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 सस्य खेहः सदसि कविताचार्यकं भूसुजां मे
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 श्रीश्रीसौतारामाभ्यां नमो नमः । श्रीरामः । श्रीहरिः ॥ ० ॥

श्रीश्रीराधाकृष्णाभ्यां नमो नमः ॥ ० ॥

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[N. S.]

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6. *The Hydra of the Calcutta Tanks*—By NELSON ANNANDALE, B.A., Deputy Superintendent of the Indian Museum.

Description.—Body and tentacles very elongate, the latter not clubbed; body cylindrical throughout; six (sometimes five) tentacles in well-grown, five in young, individuals; ovaries one or two, testes numerous. Testes and ovaries do not occur together on the same individual. *Coloration.*—Tentacles and base milky white; distal portion of the body either pale or dark olive-green, deep chestnut, orange-brown, pale brown, cream-colour or dirty white; never bright green.

When I exhibited specimens of the Calcutta Polyp to the Society I was inclined to regard it at most as a variety of *Hydra viridis*, using the specific name in a more extended sense than its author Linnæus adopted, to include *H. fusca*. A careful study of the descriptions of the European forms and an examination of a larger number of Indian specimens has since led me to doubt whether I was correct; in coming to a decision I am indebted to a note received from my friend Dr. J. H. Ashworth, of the University of Edinburgh, who has not, however, seen the Indian form. On the whole this form appears to be related to Pallas' *H. vulgaris*; but the question of specific characters, in animals so simple and so variable in appearance from moment to moment, is a very difficult one. From typical specimens of *H. vulgaris*¹ it differs in several important details.

When the animal is clinging to an inclined or vertical surface the expanded tentacles are arched, their proximal portion projecting in a straight line from the disk, while the distal extremity either falls downwards or extends upwards. Every phase of colour may be found in the same tank, but the darker specimens are more common over deeper water. Specimens kept in a bright light fade so as to become of an almost pure and uniform white, whatever their original coloration may have been.

The Polyp is usually found on the under surface of the floating leaves of water-plants. It is by no means uncommon but may be a little hard to find. Sexual reproduction takes place at any rate from December to March, but probably

¹ I have just seen Downing's recently published summary of what is known regarding the species of *Hydra*, in his paper on "The Spermatogenesis of *Hydra*. (*Zool. Jahrb., Anat.*, 1905) He recognizes, on what appear to be sufficient grounds, the following four, with one variety of the first:—(1) *H. viridis*, Linn.; (2) *H. grisea*, Linn. (with *H. vulgaris*, Pall., as a synonym); (3) *H. fusca*, Linn.; and (4) *H. diacia*, Downing. If sexual characters are to be taken into account, as has been done in constituting *H. diacia*—and the only objection is that a specimen which it is desirable to identify may not be breeding—then the Indian *Hydra* should be regarded as a distinct species, though it may only be protandrous or the converse. Under the circumstances it will be convenient to give it, at any rate provisionally, specific rank, calling it *H. orientalis*. The description above is a sufficient diagnosis. June 6th, 1905.

ceases at the commencement of the hot weather.¹ Budding occurs simultaneously. I have not seen more than two buds on one adult at the same time, and one is commoner; nor have I seen an attached bud budding. The food consists chiefly of small Crustacea and worms. Large Daphniids on coming in contact with the nematocysts are temporarily paralysed but break loose through their own weight and recover movement after a few minutes. Adult Polyps show little inclination to leave a situation in which they have settled, and buds rarely move far from their parents; consequently, large numbers of individuals may often be found within a small radius in the tanks, though there may be none on the surrounding plants. In an aquarium they desert the water-plants and take up a position on the side of the glass farthest from the light. If starved they become extremely pale and attenuated within a day or two, their colour disappearing very much more rapidly than it does when they are well fed but kept in a bright light. They do not seem to be able to endure a change of temperature such as that brought about by the sun shining directly on the surface of the water in a large glass jar.

So far as I am aware, the genus *Hydra* has not previously been recorded from British India, but a species (*H. fusca?*)² is reported from Tonkin. The late Professor J. Wood-Mason, as Major Alcock informs me, collected many specimens in Calcutta. I have myself seen a species (probably the same as the Calcutta one) in an aquarium in the Experimental Gardens at Penang.

¹ Since the beginning of the hot weather my captive specimens have disappeared, and I have not been able to find any free in the tanks. April 12th 1905. This remark still holds good. July 21st, 1905.

² Richard, *Mem. Soc. zool. France*, vii, p. 237. What may be the same species is recorded from Turkestan (Daday, *Zool. Jahrb. Syst.*, 1904, p. 480).



7. *The Composition of the oil from Bir Bahoti or the "Rains Insect,"* (Trombidium grandissimum).—By E. G. HILL, B.A., F.C.S.

The animal known to natives as *bir bahoti* and which is described as the "rains insect," the "red velvet insect," the "lady cow," in the Cyclopædia of India, and as *Bucella carniola* in Platts' dictionary, is a red mite about half an inch long and from a quarter to three-eighths of an inch in its widest part. It is covered with a scarlet, velvety down, and appears on the ground at the beginning of the rainy season. It is only to be found for a few weeks in the year, but it has a great reputation among Mahomedans as an aphrodisiac, so it is collected and kept for sale in the bazaar. The insects from which the author extracted the oil for his experiments were purchased from a dealer in Allahabad city. They had been kept for several months, but had not putrified at all. On pressure they exuded a deep red oil. It is this oil which is used medically as an external application. The Cyclopædia quoted above states that the oil is used as a counter-irritant, but it appears to have no such properties, and its efficacy as a medicine is probably purely imaginary and due to its colour.

About a pound of the insects were extracted with ether in a Soxhlet's apparatus. The extraction was carried on till the ether came over colourless, and the various fractions were then mixed together and the ether evaporated. The oil was slightly wet and it was dried over a little calcium chloride. Thus obtained it was almost as deep in colour as bromine. It had a specific gravity of .907 at 15°C. On being kept at that temperature for a day or two, it set to a semi-solid mass which melted at 18°-19°. The oil had a very peculiar odour somewhat resembling that of Malwa oil of opium. It began to boil with decomposition at 240°. The first portions of the distillate were liquid, but subsequently at a higher temperature solid products also passed over. These were all colourless. Acrolein was obviously one of the products.

With strong sulphuric acid the oil gave a vivid blue colour which turned to green. With nitric acid all colour was destroyed. Cold potassium hydrate, chlorine water, hydrochloric acid and ferric chloride had no action on the oil.

The oil readily dissolved in ether, but alcohol left a small portion undissolved. This was of the same red colour as the original oil: it was more soluble in hot alcohol, but was thrown out of solution as the alcohol cooled.

With nitrous acid the oil gave a buttery elaidin in a few hours.

On distillation in steam partial hydrolysis took place, and the distillate had a pungent odour which seemed to be that of butyric acid. This acid was recognized by neutralizing the distillate with potassium hydrate and evaporating to dryness on the water bath. The salt thus obtained was treated with alcohol and a few drops of sulphuric acid, and warmed, when the distinctive

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odour of ethyl butyrate was obtained. The distillate with steam also contained a small quantity of a solid acid.

The following values were obtained for the oil by the usual methods. It determining the saponification value aniline blue was used as an indicator and gave fairly good results, the very deep colour of the oil making very accurate observations extremely difficult:—

Sp. Gr. at 15°	906-907	} Mean of three determinations.
Acid value	...	...	62.3
Saponification value	...	...	194.7
Ester value	...	...	132.4
Unsaponifiable	...	...	3.7 per cent.
Reichert-Meißl value	...	...	0.55
Hegner value	94	
Iodine value	65	

The unsaponifiable matter above was extracted with ethyl ether from a solution of the soda soap. It contained a good deal of colouring matter.

Preliminary examination.—As a preliminary examination part of the extracted oil was saponified with potassium hydrate and the fatty acids liberated. These were then fractionally precipitated with an alcoholic solution of magnesium acetate. The various fractions were decomposed with hydrochloric acid, and the melting points of the free acids thus obtained were all between 48° and 66°. The above indicated the probable presence of a mixture of the glycerides of the more commonly occurring fatty acids, but recrystallization of the six fractions of the free acids obtained from the magnesium soap gave a comparatively large amount of an acid melting at about 52°, which seemed to indicate the possibility that there was a large amount of myristic acid in the oil.

Unsaponifiable matter.—A quantity of the oil was carefully saponified with alcoholic potash, and the soap dried on clean sand. This was then extracted with ethyl ether in a Soxhlet apparatus. The extract contained soap, so it was dried on sand and extracted a second time. The insoluble portion was added to the soap left from the first extraction. The ether extract seemed to contain some unsaponified oil, so it was saponified a second time and again extracted with ether. On evaporation of the extract the solid product was apparently free from soap or oil. This was fractionally crystallized from alcohol in two fractions which had melting points of 106° and 95°. These fractions were separately acetylated by boiling with acetic anhydride under an inverted condenser, and the acetates precipitated by pouring into boiling water. The acetates were carefully washed and crystallized from alcohol when their melting points were 98° and 68° respectively. The acetates were decomposed with potassium hydrate and the alcohols taken up in ether. The extracts were evaporated to dryness and crystallized from alcohol and had melting points of 110° and 104° respectively.

Neither of the products thus obtained crystallized in the

characteristic manner of cholesterol. The crystals were thin plates, but their shape was quite irregular. Tested for cholesterol by the colour reactions the results were as follows :—

A solution of a very small quantity in acetic anhydride gave an intense blue colour on the addition of strong sulphuric acid drop by drop, and the same result was obtained by Burchard's modification of the above test in which the cholesterol is first dissolved in 2 c.c. of chloroform, and then treated with 20 drops of acetic anhydride and one drop of sulphuric acid. Salkowski's modification of Hager's reaction gave the colour which is characteristic of cholesterol. A minute quantity was dissolved in 2 c.c. of chloroform and an equal volume of concentrated sulphuric acid added to it and the mixture shaken. On separating, the chloroformic layer was coloured red, and on standing changed to purple on the following day when the lower layer had a decided green fluorescence. It should be stated that the unsaponifiable matter used in the above tests was quite free from colour.

These reactions and the melting point of the alcohols obtained indicate the presence of cholesterol, and possibly of a fatty alcohol of high molecular weight. The amount of unsaponifiable matter available was too small for further investigation.

The Fatty acids.—The soap freed from unsaponifiable matter was treated with dilute hydrochloric acid, and heated to liberate the fatty acids. These were thoroughly washed and dried in a steam-oven. They were still tinted red, but not enough so to render impossible the use of phenol-phthalein as an indicator.

For the mixed fatty acids the following values were obtained :—

Saponification value	...	...	199
(Hence mean mol. wt.	...	...	282)
Iodine value	...	...	66.6
Melting point	...	...	31°-32°

It is stated by Lewkowitsch that when the mixed fatty acids are triturated with alcohol specific gravity .911, the unsaturated acids are almost completely dissolved. Accordingly the mixed acids obtained as above were treated in that way in the cold and filtered. The filtrate was reserved for treatment by Varrentrap's method. The residue of saturated acids was washed with alcohol sp. gr. .911 and fractionally crystallized from absolute alcohol. Three fractions were thus obtained, and each of these was recrystallized three times from hot alcohol. The melting points were then 54°, 53°, and 53°. 5. After a fourth crystallization the melting points were 54°. 7, 53°. 4 and 53°. 6, respectively. They were thus very nearly pure, but not quite, and the presence of myristic acid with a small quantity of palmitic or stearic acids was indicated. The three fractions were mixed and put on one side.

The filtrate from the alcohol sp. gr. .911 were evaporated down to dryness and saponified with an alcoholic solution of potassium hydrate. The soap was exactly neutralized with acetic acid and

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poured in a thin stream into a boiling solution of lead acetate (7 per cent.) with constant agitation. The operation was conducted in a flask according to Tortelli and Ruggeri's modification of Varentrap's method. The solution was cooled and the supernatant liquid poured off and the lead salt washed with lukewarm water and then dried with filter paper. The lead salts in the flask were then warmed with ether on the water bath, and shaken, until they had completely disintegrated. The flask was kept at a temperature of 10° for 24 hours, and then the liquid was filtered. The filtrate was decomposed with dilute hydrochloric acid, washed, and the ether evaporated off in a stream of dry carbonic acid. The unsaturated acids obtained in this way gave an iodine value of 84. They were almost colourless, having a faint yellow tint, and remained liquid at the temperature of the laboratory, which was about 17° Centigrade. Compared with the acids left after trituration with alcohol .911, the amount was not large.

The lead salts, insoluble in ether, were also decomposed with hydrochloric acid and washed and dried. The acids were then added to the mixed fractions from trituration with alcohol mentioned above. This mixture then contained all the saturated fatty acids.

These mixed saturated acids were then treated according to a suggestion of Partheil and Feriè. The solubilities in alcohol of the lithium salts of oleic lauric, myristic, palmitic and stearic acids differ sufficiently for it to be theoretically possible to separate them. In the following, Partheil and Feriè's directions were followed, but the alcohol used was the "absolute alcohol" of the laboratory and was subsequently found to have a sp. gr. of .809.

The acids (8 grams) were saponified with 120 c. c. of half normal alcoholic potash, and the soap dissolved in 800 c.c. of 50 per cent. alcohol. A ten per cent. solution of lithium acetate in 50 per cent. alcohol was added, and the mixture warmed on the water bath to 60°. Nearly the whole of the precipitate formed at first passed into solution, and on cooling, a quantity of minute crystals separated out. These were filtered off, washed with 50 per cent. alcohol, and the filtrate which should have contained lithium oleate, together with the lithium salts of the less saturated acids, was put on one side.

The lithium salts precipitated on cooling the solution in 50 per cent. alcohol were dissolved in hot absolute alcohol. A large amount was required, but the whole of the precipitate was brought into solution. The solution was then allowed to stand in the cold for 24 hours, at the end of which time there had settled down a precipitate which should have been the lithium salts of palmitic and stearic acids. There was only a small quantity of this precipitate, but it was filtered off, the free acid liberated in the usual manner, well washed and crystallized from alcohol. The acid thus obtained had a melting point of 54°.5 to 55°, and was probably a mixture of stearic and myristic acids in equal proportions. According to Reintz such a mixture melts at 54°.5, and as will be shown

later there were clear indications of the presence of stearic acid in the oil.

The filtrate from the solution in absolute alcohol should have contained only lithium myristate. The alcohol was evaporated off and the salt decomposed with hydrochloric acid and washed. It melted at 53°.7, and after recrystallization at 53°.8. Myristic acid melts at 53°.8.

Combustion of .1077 gram gave—

H₂O .1162 gram, *i.e.*, 11.98 per cent. hydrogen.
CO₂ .2777 gram, *i.e.*, 70.3 per cent carbon.

Myristic acid, C₁₄H₂₈O₂, gives 11.8 per cent. hydrogen and 70.5 per cent. carbon.

This acid was obviously pure myristic acid.

The filtrate from the solution in 50 per cent. alcohol was evaporated down and decomposed with hydrochloric acid. The free acids thus obtained were liquid at the temperature of the laboratory, showing that all the liquid acids had not been removed by the trituration with alcohol sp. gr. 911. The amount was too small for further examination.

In the above work there is uncertainty as to the presence of stearic acid, and owing to the method adopted for the separation of the fatty acids it appeared desirable to make a separation *ab initio* by means of the lead salts and redetermine the iodine value for the unsaturated acids. Accordingly a fresh lot of the mixed fatty acids was saponified. The soap was converted into the lead salts and these treated according to the method of Tortelli and Ruggeri. The solid and liquid acids were thus separated. The liquid acids on standing for a few days at 18° had deposited a few small needle-like crystals which melted or dissolved in the liquid acid on slightly warming it. These are mentioned below.

The solid fatty acids were converted into their lithium salts as before, and the 50 per cent. alcoholic solution was heated to 60°, cooled and filtered. The filtrate gave liquid acids on hydrolysis. These were added to the liquid acids obtained from the lead salts. The salts on the filter were digested with absolute alcohol and filtered hot in a hot water funnel. This step was rendered necessary by the fact that the dissolved myristic acid began to crystallize out as soon as the temperature fell more than a few degrees. The precipitate left after filtering the hot solution gave on hydrolysis a small quantity of acids which was dissolved in boiling alcohol. The crystals were pressed in filter paper. This was repeated four times, and after each crystallization the melting point of the crystals was taken. These were 49°.5, 51°.5, 53°.5, 62°.6. The remaining acid was fractionally crystallized in two fractions, and the melting point of each fraction was found to be 64°.5. Since this is above the melting point of pure palmitic acid it may be taken as certain that stearic acid in small quantity is present in the oil.

The filtrate from the hot alcohol solution was cooled. There

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was a copious deposit of lithium myristate. This was filtered off and the freed acids were crystallized in three fractions which had melting points of $53^{\circ}7$, $53^{\circ}8$ and $53^{\circ}8$ respectively. The acid was thus pure myristic acid. The filtrate from this lithium myristate was evaporated down and the acid liberated in the usual manner. It was myristic acid with the melting point $53^{\circ}4$, and after crystallizing from alcohol, $53^{\circ}7$. The unsaturated fatty acids obtained in the second series of operations had deposited a few white crystals after standing for two days at a temperature of 20° . As it was possible that they might still contain a small amount of solid acids they were again converted into the lead salts and treated with ether as above described. The acid thus prepared again deposited crystals in two days at 18° , but the iodine value was $94^{\circ}5$, so it was probable that the solid acid was an unsaturated acid.

For the investigation of this solid acid the crystals were filtered off, and freed as far as possible from all liquid acids by gently pressing them between filter paper. The acid was distinctly solid and was quite white. The amount was only 0.1390 gram which had the iodine value of 67. The iodine value of the liquid filtered off was again taken to see whether it had undergone any alteration. It was found to be 67 when taken at the same time as that of the crystals, and when taken four days later after exposure to air was found to be less still. Since the original value was 95, it seems likely that the unsaturated acids consisted mainly of oleic acid, and possibly of a lower acid of the same series. The change in the iodine value would be due to oxidation or decomposition. These changes seem similar to those experienced by Senkowski (*Zeit. f. Physiolog. Chem.* 1898, 434).

The acids isolated were present as glycerides as is shown by the saponification value of the oil. Glycerol was, however, isolated in the usual way by saponifying the oil, removing the fatty acids and neutralizing the remaining solution. This was then evaporated to dryness and extracted with alcohol. The extract after removal of the alcohol was a rather dark liquid readily miscible with water. It gave all the reactions of glycerol.

Conclusion.—The above experiments point to the conclusion that the oil is principally composed of myristodiolein, and that there are also present small quantities of stearin, cholesterol and colouring matter. The butyric acid may be the result of decomposition. There is possibly also present an alcohol of high molecular weight belonging to the fatty series of carbon compounds.

In the above it will be seen that the author's results regarding the separation of stearic and myristic acid do not agree with those of Partheil and Feriè. The latter state that when a mixture of stearate, palmitate and myristate of lithium are heated with absolute alcohol so as to dissolve the salts, only the stearate and palmitate separate out on cooling, while the myristate remains in solution. Lewkowitsch, indeed, suggests a method of separation of the acids based on their work, but he qualifies his remarks by the statement that Partheil and Feriè worked on such small

quantities that their results need confirmation. What is probably the case is that owing to the greater solubility of the lithium salt such a separation is possible when the amount of myristic acid is not in very large proportion to the stearic and palmitic acids, but that when it is large the method needs modification. The author proposes to investigate this question.



8. CONTRIBUTIONS TO ORIENTAL HERPETOLOGY II.—*Notes on the Oriental Lizards in the Indian Museum, with a List of the Species recorded from British India and Ceylon.* Part I.—By NELSON ANNANDALE, B.A., Deputy Superintendent of the Indian Museum. (With 2 plates.)

The collection of lizards in the Indian Museum is mainly Indian and Burmese, including examples of the great majority of the indigenous species; but interesting material from neighbouring countries, specially Persia, Eastern Turkestan, Yunnan, Siam and Malaya, is also included. Of forms from more distant regions only a comparatively small number are represented, one of the most noteworthy being the rare and peculiar Australian Ball-tailed Gecko, *Nephrurus asper*,¹ of which a good specimen was obtained in exchange with the Queensland Museum some years ago, under a wrong identification. The Skinks and Lacertidæ of Palestine, however, are well represented by the collection of the late Dr. J. Anderson. Regarding the majority of our Oriental specimens, an examination adds little to the systematic and geographical knowledge to be found in Mr. Boulenger's works. Of a few, however, this is not the case; for there are still parts of India—the country between northern Assam and southern Tenasserim is one of them—of which even the systematist has not yet exhausted the vertebrate zoology, and from which the Museum possesses specimens not examined critically until within the last few months.

In the light chiefly of Mr. Boulenger's volume in the "Fauna of India" and subsequent papers, it is no longer possible to maintain many of the older Indian naturalists' identifications, whether published or in manuscript, and he has recently pointed out that the names of two of the commonest of our Indian lizards cannot stand—that *Hemidactylus coctæi*, D. & B., the common house-lizard of Calcutta, must be known as *H. flaviviridis*, Rüpp, while *H. gleadowii*, Murray (which is even more abundant in some parts of India) is identical with *H. brookii*, Gray. I must express my personal obligations to Mr. Boulenger for examining certain Geckos about the correct identifications of which I was doubtful, notably the specimens on which the form *Gymnodactylus consobrinoides* is founded.

GECKONIDÆ.

ALOPHYLAX PIPIENS (Pall.)

Gymnodactylus microtis, Blanford, *J.A.S.B.* XLIV (2), 1875, p. 193; and *2nd. Yark. Miss., Rept.*, p. 15, pl. ii, fig. 1.
Allophylax pipiens, Boulenger, *Cat. Lizards Brit. Mus.* i, p. 19.

Dr. Blanford does not record this species from Ladak, though it appears to be common in Eastern Turkestan; but there is a

¹ Its locality is given as Queensland.

specimen in the Museum (from Stoliczka's Yarkand collection), which bears a label corresponding to the locality "Kharbu, Ladak" in the register. By some error this individual is entered as *Gymnodactylus stoliczkae*—a species so distinct from *A. pipiens* that it is hardly probable that any confusion can have been made between them. It is possible, however, that some accidental exchange of labels may have taken place, and the latter species must be recorded as belonging doubtfully to the fauna of British India. It is desirable, if it does occur in Ladak, that further specimens should be obtained. They are easily recognizable on account of the extremely small size of the ear-opening.

Distribution.—Turkestan; Transcaspia.

GYMNODACTYLUS OLDHAMI, Theob.

G. oldhami, Theobald, *Cat. Rept. Brit. Ind.*, p. 81. Boulenger, *Faun. Ind., Rept.*, p. 38.

The Indian Museum possesses the type and three other specimens of this Gecko. Except the type, they are from Lower Burma ("Tavoy," "Mintao," and "Tenasserim Expedition"); while the type is recorded as from S. Canara. This locality is more than doubtful. It was merely suggested to Theobald (*loc. cit.*) by Beddome, who did not take the species himself in South India.

Boulenger's "keys" in the "Fauna of India" and the "Catalogue" hold good for *G. oldhami*, *G. fasciolatus* and *G. variegatus*, the types of all of which are in the Indian Museum but have lately been examined by him.

GYMNODACTYLUS MARMORATUS, Gray.

G. marmoratus, Boulenger, *Cat. Liz. Brit. Mus.* i, p. 44.

The Museum has lately received specimens of this species from the Malay Peninsula in exchange with the Selangor State Museum. It is to be hoped that it will be sought for in Lower Burma.

GYMNODACTYLUS CONSOBRINOIDES, nov.

The description is based on two male specimens, both probably immature, obtained in Tavoy a number of years ago by one of the Museum collectors.

Diagnosis.—A form closely allied to *G. pulchellus* and the Bornean species *G. consobrinus*. There is no trace of a præanal groove; probably the adult male has an almost straight series of præanal and femoral pores, uninterrupted in the middle line and numbering about 26; in the young male these are represented by depressions in a row of enlarged scales. The dorsal tubercles are smaller than in *G. pulchellus* and less distinctly keeled; the ventrals are larger; the ventral region is not marked off by a line of enlarged tubercles; the

plates on the ventral surface of the tail are not separated from the scales of the sides, as they are in *G. pulchellus*, by heterogeneously shaped, slightly enlarged scales. The head is very slightly depressed in the frontal region. In the types the colours have faded; the dorsal surface is dirty grey-brown, with nine darker cross-bars, edged with dirty white, on the body, and ten or eleven on the tail; on the body they are considerably narrower than the interspaces, but on the tail they become gradually broader from before backwards; the enlarged dorsal tubercles are pale; the lower surface is dirty pale brown.

Measurements (Immature male).

Total length	...	...	112 m.m.
Body	...	...	36 "
Tail	...	...	62 "
Head	...	...	14 "
Breadth of head	...	...	9 "
Fore-limb	...	...	15 "
Hind limb	...	...	24 "

I have not been able to compare the specimens with examples of *G. consobrinus*; but Mr. Boulenger regards them as representing a species intermediate in some respects between *G. pulchellus* and *G. consobrinus*. On the whole, the points in which they differ from the former seem to tend rather in the direction of the latter's characteristic peculiarities.

GONATODES ANDERSONII, Annand. (Plate II, fig. 3).

G. andersonii, *Annandale, J.A.S.B.* (2) suppl., 1904, p. 21.

Since the description of this form was written two additional specimens, both from Narcondam, have been presented to the Museum by Mr. C. G. Rogers. They agree well with the types and differ in the same respects as they do from *G. kandianus* and *G. gracilis*. On the whole they show that the Andaman (or Narcondam?) form is undergoing what is probably a parallel evolution to that which has produced *G. gracilis*.

PHYLLODACTYLUS BURMANICUS, Annand. (Plate I, fig. 1).

P. burmanicus, *Annandale, Ann. Mag. N. H.* (7) XV, 1905, p. 28.

Since I described this species another specimen, from the same locality and collection, has been found in the Museum. It is also a male. The proportions of the head differ somewhat from those of the type, so that these cannot any longer be considered as specific characters. The number of lamellæ under the fourth toe is smaller than in *P. siamensis*, being 8 or 9 in the specimens examined (see figs. 1b, 2a, Pl. I).

The possession by the males of this species and of *P. siamensis*, Blgr., of præanal pores marks the two forms off as constituting a very distinct section of the genus *Phyllodactylus*, if not a separate genus. I take this opportunity to figure certain structural details, as *P. europæus* is the only other species of which I have examined specimens. *P. siamensis* and *P. burmanicus* are the only forms known from the Indian Region.

HEMIDACTYLUS TRIEDRUS (Daud.) (Plate II, fig. 2).

H. subtriedrus, *Stoliczka, J.A.S.B., XLI (2), 1872, p. 93.*

H. triedrus, *Boulenger, Cat. Liz. i, p. 133, and Faun. Ind., Rept., p. 89. Annandale, Ann. Mag. N. H. (7) XV, p. 30.*

There is a fair series of this Gecko in the Indian Museum, but unfortunately most of the specimens are without localities. One labelled "near Ellore" and named, apparently by Stoliczka, *Hemidactylus subtriedrus*, agrees closely with Jerdon's description of that species, which, however, is not definitive. It agrees with Boulenger's definition of *H. subtriedrus* in having ten labials, a head more depressed than that of typical specimens of *H. triedrus* and rather smaller ventral scales; but it differs in having only seven infradigital lamellæ under the thumb, nine under the middle finger, and nine under the middle toe. It may, therefore, be regarded as intermediate between the two forms. The fact that it is from the Ellore district suggests the possibility that other specimens of an intermediate character occur and that *H. subtriedrus* is not specifically distinct. Possibly it is one of the two specimens referred to by Stoliczka in the reference quoted; but it is not the one figured. Its donor's name was originally omitted in the Museum register, but "Dr. Stoliczka" has been written in in pencil at a later date.

HEMIDACTYLUS KARENORUM (Theob.)

A specimen from Cachar, Assam (*Wood-Mason*). Previously known from Pegu.

LEPIDODACTYLUS CEYLONENSIS, Blgr.

Specimens from "Hills between Burma and Siam" and from Tavoy (Museum collector).

LIST OF GECKOS FROM SINKIP ISLAND.

The following species were taken on Sinkip Island, which lies some little distance off the east coast of Sumatra, by the late Prof. J. Wood-Mason's collector:—

1. *Gymnodactylus feæ*, Blgr. (3 specimens).
2. *Hemidactylus frenatus*, Gray (numerous specimens).
3. *Hemidactylus platyurus* (Schneid.) (numerous specimens).

EUBLEPHARIDÆ.

EUBLEPHARIS HARDWICKII, Gray

I find it hard to ascertain the exact range of this somewhat rare species. The Museum has specimens from the following localities:—Quetta; Khorda, Orissa; Ganjam; the Sunderbans, near Calcutta. Very few of the Indian lizards are found both in Baluchistan and Lower Bengal.

AGAMIDÆ.

PYCTOLÆMUS GULARIS, Ptrs.

A male from Goalpara, Assam (*H. L. Houghton*).

The male differs from the female only in the development of the gular pouch, which commences in a vertical line with the centre of the eye and terminates behind at the anterior border of the shoulder girdle. It can be folded into the surface of the throat so as to be very inconspicuous, but is evidently capable of great distention; the three pairs of gular folds which characterize the female are well marked on its sides. Its general colour is black, but these folds and the lower border are dirty white: the specimen, however, is much faded.

ACANTHOSAURA LAMNIDENTATA, Blgr.

A *lamnidentata*, *Boulenger, Faun. Ind. Rept.*, p. 126; and *Ann. Mus. Geneva* (2) xiii, p. 317.

Coloration is no guide in the identification of this species. Specimens of *A. lamnidentata*, *A. armata* and *A. crucigera*, may all be coloured¹ (at any rate if faded) exactly alike, as the series in the Museum shows. This series bears out Boulenger's contention, that the relative length of the superciliary spine affords a constant distinction between *A. lamnidentata* and *A. crucigera*, though the two forms are otherwise practically identical. In *A. armata* the spine is considerably longer than in either.

The Museum possesses characteristic specimens of *A. armata* from "Burma" (*Major Berdmore*) and from Mergui (*Anderson*). The latter is the one recorded in the *Fauna of Mergui*, i, p. 343.

JAPALURA ANDERSONIANA, nov. (Plate II, fig. 4).

This species is founded on two male specimens collected by Col. Godwin-Austen in the Duffa Hills (Assam-Bhutan Frontier). The late Dr. J. Anderson recognised it as new, but neither gave it a name nor described it.

Diagnosis.—Body rather slender, strongly compressed; hind-limb long, reaching to the tip of the snout or beyond. Snout

¹ But compare my note in *Fascic. Malay.—Zool.* 1, p. 154.

slightly longer than the diameter of the orbit, obtuse; rostral and superciliary ridge prominent, continuous; the latter succeeded behind, after an interval, by a large conical tubercle, round which several others of smaller size are grouped. There are two other prominent tubercles between the top of the head and the tympanic region on each side. A curved line of smaller tubercles outlines the inner margin of the superciliary region and a flat or slightly depressed sub-circular area is similarly marked off on the snout. All the scales are keeled; those on the sides are small, with five oblique rows of larger and more prominent scales running downwards and forwards from the base of the dorsal crest to or beyond a longitudinal line of similar scales; between every two of these rows there is another, which is much shorter and does not reach as much as half way down the body. The dorsal surface of the limbs is covered with rather large heterogeneous scales, the larger of which show a tendency to be arranged in V-shaped series; the scales on the belly and ventral surface of the limbs are larger than those on the sides; the tail is covered with small, imbricate, leaf-shaped scales, which are not enlarged below. The nuchal crest is well developed (in the male), consisting of a fold of skin covered with three or four parallel horizontal rows of flat, smooth scales, the uppermost of which are larger than those below them and form a feebly serrated ridge; the dorsal crest is much lower, consisting of a single row of similar scales. There is no gular pouch and no distinct gular fold.

Coloration—Dorsal surface dirty brown, rather dark, brighter on the head, feebly marbled on the sides, pale on the ventral surface; pale, dark-edged lines radiating from the eyes.

Measurements ♂.

Total length (tip of tail injured)	...	119 mm.
Head	... ..	20 "
Width of head	... ..	11 "
Body	... ..	33 "
Fore-limb	... ..	29 "
Hind limb	... ..	52 "

This species can be distinguished easily from *J. planidorsata* by its compressed body and long hind limbs.

SALEA HORSFIELDII, Gray

Specimens from Moulmein (*Stoliczka*) and from "Hills near Harmatti, Duffla Expedition" (*Godwin-Austen*).

CALOTES MICROLEPIS, Blgr.

Of this species, previously known from the hills of northern Tenasserim, the Museum possesses a specimen from Manipur (*R. D. Oldham*).

CALOTES VERSICOLOR (Daud).

C. gigas, Blyth, *J.A.S.B.* XII, 1853, p. 648.

C. gigas (under *C. mystaceus*), Boulenger, *Faun. Ind., Rept.* p. 138. *C. versicolor id.*, *op. cit.*, p. 135.

I have examined several hundred specimens of this common lizard. They came from nearly all parts of India and Ceylon, from Malaya and Pitsanuloke in Siam. With these I have compared Blyth's types of *C. gigas* (which are in the Indian Museum), with the result that I find the two forms to belong clearly to the same species. There is no oblique fold in front of the shoulder in Blyth's specimens, and therefore they cannot be associated with *C. mystaceus*, as Boulenger, who had had no opportunity of examining them, thought probable.

The types of *C. gigas*, which are adult males, differ from the majority of specimens only in having the secondary sexual characters more fully developed; the scales (especially those on the throat) are heavily keeled and inclined to be lanceolate in outline, the crest is very high, the cheeks are greatly swollen, the size above the average. The large series examined shows that in Lower Bengal (and probably in Assam, Burma and Malaya), the males of *C. versicolor* rarely if ever reach an extreme degree of development in these respects; but no exact line can be drawn. We have specimens from Sind, from South and North-West India and from Ceylon which agree almost exactly with Blyth's, while a much larger number are intermediate in character. Dr. Blanford's examples from Baluchistan (*Eastern Persia* ii, p. 313) belong to this intermediate phase; but specimens from Calcutta have the male characters even less marked. The extreme phase (*gigas*) probably bears much the same relation to *versicolor* as *Gonyocephalus humii* (Blyth) does to *G. subcristatus* (Stol).

CALOTES YUNNANENSIS. NOV.

C. maria (part.), Anderson, *Anat. Zool. Res. Yunnan Ex.*, p. 806.

Among the lizards collected by Dr. Anderson in Yunnan I find a *Calotes* which does not agree with any published description. It is registered in the Museum books as *C. maria* and is the only specimen from Yunnan now in the collection which at all resembles this species. It differs, however, in certain respects from the descriptions and from specimens from Assam, and I think that (in the present state of systematic nomenclature) it is worthy of a specific name. Anderson states that the specimens of *C. maria* which he took in Yunnan were compared with the types of the species; but what has become of the rest of them I have been unable to discover. As regards several important points the new form is intermediate between *C. maria* and *C. jerdoni*; but it has a distinct though rather short and shallow oblique fold in front of the shoulder covered with granular scales. Were it not that the presence or absence of such a fold is a very constant character in other members of the genus;

the specimen would practically break down the distinction between the two species, or would have to be regarded as an aberrant example of *C. maria*.

Diagnosis.—Upper head scales moderate, smooth, imbricate, slightly enlarged on the superciliary area; two parallel rows of enlarged, erect scales on the temple, the posterior few of each series ending in short spines; the lower series is separated from the tympanum (in the type) by three rows of small scales. Tympanum nearly half the diameter of the orbit. Gular pouch not developed; gular scales strongly keeled, larger than ventrals, equalling dorsals. A rather short and shallow oblique fold in front of shoulder; dorso-nuchal crest well developed anteriorly, the longest spines (just behind the head) measuring between half and two-thirds the diameter of the orbit. Fifty-six scales round the centre of the body; dorsal and lateral scales feebly keeled, directed upwards and backwards; ventrals much smaller than dorsals, strongly keeled. The adpressed hind limb reaches the anterior border of the orbit; third and fourth fingers nearly equal. Tail round, slender, very long. Colour green (faded in the type), with pale (red ?) markings on the sides and on the knees and elbows.

Measurements ♂.

Total Length	...	...	405 Mm.
Head	...	...	34 "
Width of head	...	...	17 "
Body	...	...	65 "
Tail	...	...	305 "
Fore-limb	...	...	53 "
Hind limb	...	...	68 "

CALOTES ROUXII, D & B.

C. rouxii, Boulenger, *Faun. Ind., Rept.*, p. 142.
Several specimens from Travancore (*Beddome*).

AGAMA MEGALONYX (Gthr.)

A. megalonyx, Boulenger, *Cat. Liz.*; i. p. 347.
Two specimens from the Perso-Baluch frontier (*Dr. Turnbull*
and *Col. Wahab*).

AGAMA LIRATA (Blanf.)

A. lirata, Boulenger, *Faun. Ind., Rept.*, p. 150.
Four specimens from Sind (*Murray* ?) agree very closely with the type, which is in the Indian Museum. Probably this species does not reach the full dimensions of *A. melanura*; its tail is more slender and proportionately longer.

AGAMA. sp.

There are two specimens of a large *Agama* in the collection which represent a species allied in some respects to *A. nupta*, De Fil. As their origin is uncertain I prefer to leave them unnamed. The numbers on their museum labels have been originally entered in the register without particulars, but "Dr. W. T. Blanford. Persian collection?" has been written in at a later date in pencil and the collector's labels attached to them resemble those of the Persian Collection.

They differ from specimens of *A. nupta* (of which I have examined a large series) chiefly in the character of their dorsal lepidosis. There is along the vertebral line a narrow band of enlarged scales which widens slightly from before backwards. These scales are not homogeneous or arranged in any order, but differ largely *inter se* both in size and in development; they are strongly mucronate and their bases do not overlap; some of them have almost the character of retroverted spines. Similar scales are scattered on the sides of the posterior part of the body, and there are others, which have a rather larger base, on the postero-lateral surface of the thighs. The majority of the dorso-lateral scales are extremely minute, but the antero-lateral scales of the thighs are large, imbricating, leaf-shaped, homogeneous and strongly keeled. The other characters are those of *A. nupta*.

AGAMA NUPTA, De Fil.

A. nupta, Boulenger, *Faun. Ind. Rept.*, p. 151. Alcock and Finn, *J.A.S.B.* lxx (2), 1896, p. 555.

The verticillation of the tail, at any rate in old specimens, may be practically absent. The coloration is frequently an almost uniform brownish-black. The Museum processes a characteristic but imperfect specimen from Chitral (*Dr. G. M. Giles*)

LIOLEPIS BELLII (Gray)

L. bellii, Boulenger, *Fascic. Malay. Zool.* 1, p. 155. *Anandale* and *Robinson*, *ibid.* (note). *Anandale*, *P. Z. S.*, 1900, p. 857, and *Ann: Mag. N. H.* (7) XV, 1905, p. 32.

We have several immature specimens from Burma which exhibit the characteristic "juvenile livery" so well marked in examples from the Malay Peninsula.

LIST OF AGAMIDE TAKEN ON SINKIP ISLAND BY WOOD-MASON'S
COLLECTOR.

1. *Draco quinquefasciatus* (Gray) (numerous specimens).
2. *Aphaniotis fusca* (Ptrs.) (one specimen).
3. *Calotes jubatus* (D. & B.) (one specimen).

ANGUIDÆ.

OPHISAURUS APUS (Pall.)

The known range of this species is from Dalmatia to Afghanistan, from near the Indian border of which we have a specimen; but it probably occurs also in adjacent parts of India. There are several specimens in the Indian Museum which have come from the Alipore Zoological Gardens, unfortunately without any definite history; but the probability is that they are from North-Western India.

OPHISAURUS GRACILIS (Gray)

Of *O. gracilis* the Museum possesses a large series, which exhibits great variation as regards colour. Judging from a collection recently made by Major Alcock, this species is common near Darjeeling. Major Alcock tells me that it is extremely sluggish and generally "shams dead" when handled.

VARANIDÆ.

VARANUS DUMERILII (Müll.)

The only specimen we possess is immature, being the type of Blanford's *Varanus macrolepis*. It is very desirable that further examples should be obtained, as the other Indian species of the family are represented by large series.

LIZARDS OF INDIA, BURMA AND CEYLON.¹

GECKONIDÆ.

- | | | |
|--|-----|--|
| 1. <i>Teratoscincus scincus</i> * (Schleg.) | ... | (Alcock and Finn, <i>J.A.S.B.</i> , 1896.)
Baluchistan. |
| 2. <i>Ceramodactylus affinis</i> , Murray* | ... | (<i>ibid.</i>) Baluchistan. |
| 3. <i>Stenodactylus orientalis</i> , § Blanf. | ... | Sind. |
| 4. <i>Stenodactylus lumsdenii</i> , Blgr. | ... | Baluchistan. |
| 5. <i>Alsophylax pipiens</i> * (Pall.)? | ... | Ladak? (<i>Antea.</i>) |
| 6. " <i>tuberculatus</i> , § (Blanf.) | ... | Sind, Baluchistan. |
| 7. <i>Gymnodactylus fedtschenkoi</i> ,
Strauch. | ... | Panjab Salt Range. |
| 8. <i>Gymnodactylus scaber</i> (Rüppl.) | ... | Sind. |
| 9. " <i>brevipes</i> , § Blanf. | ... | Baluchistan. |
| 10. " <i>kachensis</i> , § Stol. | ... | Katch; Baluchistan; Sind. |
| 11. " <i>stoliczkae</i> , Steind. | ... | Upper Indus Valley. |
| 12. " <i>lawderanus</i> , § Stol. | ... | Almorah and Kumaun. |
| 13. " <i>nebulosus</i> , Bedd. | ... | S. India and Ceylon. |
| 14. <i>Gymnodactylus jeyporensis</i> , Bedd | ... | Jeypore. |
| 15. " <i>deccanensis</i> , Gthr. | ... | Bombay Presidency. |

¹ A * denotes an addition to the Indian fauna since 1890; a § that a type or co-type is in the Indian Museum. The names of species not represented in this collection are printed in italics.

16. *Gymnodactylus albofasciatus*, Blgr. ... S. Canara.
 17. *Gymnodactylus oldhami*, § Theob. ... Lower Burma.
 18. " *triedrus*, Gthr. ... Ceylon.
 19. " *frenatus*, Gthr. ... "
 20. " *khasiensis* § Jerd. ... Assam; Upper Burma.
 21. " *rubidus*, § (Blyth.)... Andamans.
 22. *Gymnodactylus peguensis*,* Blgr. ... (Boulenger, *Ann. Mus. Genova* (2) xiii.) Pegu.
 23. *Gymnodactylus palchellus* (Gray). ... Bengal (?); and Lower Burma.
 24. " *consobrinoides*,*§ Annand. ... Tavoy. (*Antea*.)
 25. " *variegatus* § (Blyth). Lower Burma.
 26. " *fesæ*,* Blgr. ... (Boulenger, *op. cit.*), Pegu.
 27. " *fasciolatus* § (Blyth.) Western Himalayas.
 28. *Agamura cruralis*, § Blanf. ... Baluchistan.
 29. " *persica** (A. Dum.) ... (Aloock and Finn, *op. cit.*) Baluchistan.
 30. *Pristurus rupestris*. § Blanf. ... Sind; Central India (?)
 31. *Gonatodes indicus* (Gray) ... Nilgiris, S. India.
 32. " *wynadensis* (Bedd.) ... Wynaad " "
 33. *Gonatodes sisparensis* (Theob.) ... Nilgiris " "
 34. *Gonatodes ornatus* (Bedd.) ... Malabar.
 35. " *marmoratus* (Bedd.) ... Malabar District.
 36. " *mysoriensis* (Jerd.) ... Mysore.
 37. " *kandianus* (Kelaart.) ... Ceylon; S. India, and Prepara I. (Annandale, *J.A.S.B.*, (2) suppl. 1904) Andamans.
 38. " *andersonii*,* § Annand. ... Ceylon and S. India.
 39. " *gracilis* (Bedd.) ... "
 40. " *jerdonii* (Theob.) ... "
 41. " *littoralis* (Jerd.) ... Malabar District.
 42. *Phyllodactylus burmanicus*,*§ Annand. ... (Annandale, *Ann. Mag. N.H.*, 1905), Tavoy.
 43. *Callodactylus aureus*, Bedd. ... N. Aroot.
 44. *Ptyodactylus homolepis*, § Blanf. ... Sind and Baluchistan.
 45. *Hemidactylus reticulatus*, Bedd. ... S. India.
 46. " *gracilis*, § Blanf. ... Central Provinces.
 47. " *frenatus*, D. & B. ... S. and E. India; Burma; Ceylon.
 48. " *brookii*, Gray. ... (= *H. gleadovii*, Murray.) All India and Ceylon.
 49. " *turcicus* (Linn.) ... Sind.
 50. " *persicus*, § Anders. ... "
 51. " *maculatus*, D. & B. ... Deccan and S. India.
 52. " *triedrus* (Dand.) ... Central and S. India; Ceylon.
 53. *Hemidactylus subtriedrus*, Jerd. ... S. India.
 54. *Hemidactylus subtriedroides*,*§ Annand. ... (Annandale, *op. cit.*), Upper Burma.
 55. " *depressus*, Gray. ... Ceylon.
 56. " *leschenaultii*, D. & B. ... All India, Burma (?) and Ceylon.
 57. " *flaviviridis*, Rüpp. ... (= *H. coctæi*, D. & B.), All India.
 58. " *giganteus*, § Stol. ... Malabar district.
 59. " *bowringii* (Gray) ... E. India and Burma.
 60. " *karenorum* (Theob.) ... Pegu; Cachar.
 61. " *garnotii*, D. & B. ... Sikhim and Burma.
 62. " *platyrus* (Schneid.) ... E. India; Burma and Ceylon.
 63. *Teratolepis fasciata*, § Blyth. ... Deccan and Sind.
 64. *Gehyra mutilata* (Wieg.) ... N.E. India; Burma and Ceylon.
 65. *Lepidodactylus ceylonensis*, Blgr. ... Burma and Ceylon.
 66. " *aurantiacus* (Bedd.) ... S. India.
 67. " *lugubris* (D. & B.) ... Burma and Ceylon; Andamans and Nicobars.

68. *Hoplodactylus duvaucelii* (D. & B.) ... Bengal (?)
 69. *Hoplodactylus anamallensis* (Gthr.) Anamallays, S. India.
 70. *Gecko verticillatus*, Laur. ... N.E. India; Burma.
 71. " *stentor* (Cant.) ... Chittagong, Burma; Andamans
 and Nicobars.
 72. " *monarchus* (D. & B.) ... Ceylon.
 73. *Ptychozoon homalocephalum* (Crev.) Lower Burma; Andamans (?) and
 Nicobars.
 74. *Phelsuma andamanense* § (Blyth.) ... Andamans.

EUBLEPHARIDÆ.

75. *Eublepharis hardwickii*, (Gray.) ... Peninsular India; Baluchistan.
 76. " *macularius*, § Blyth. .. Punjab and Sind; Chitral.

AGAMIDÆ.

77. *Draco maculatus* (Gray.) ... Assam and Burma.
 78. " *blanfordii*, Blgr. ... Tenasserim.
 79. " *norvillii*, *§ Alc. ... (Alcock, (2) *J.A.S.B.* LXIV.)
 Upper Assam.
 80. " *dussumieri*, D. & B. ... Malabar Coast.
 81. " *tæniopterus*, Gthr. ... Tenasserim.
 82. *Sitana ponticeriana*, Cuv. ... India and Ceylon (not in Hima-
 layas).
 83. *Otocryptis bivittata*, Wieg. ... Ceylon.
 84. *Otocryptis beddomii*, Blgr. ... S. India.
 85. *Ptyctolæmus gularis*, Ptrs. ... Assam.
 86. *Cophotis ceylanica*, Ptrs. ... Ceylon.
 87. *Ceratophorus stoddartii*, Gray. ... Ceylon (mountains only).
 88. " *tennentii*, Gthr. ... Ceylon.
 89. " *aspera*, Gthr. ... Ceylon.
 90. *Lyriocephalus scutatus* (Linn.) ... Kandy district, Ceylon.
 91. *Gonyocephalus subcristatus* (Blyth.) Andamans and Nicobars.
 [*G. humii* (Stol.) = *G. subcristatus* (aged individuals), Annandale, *J.A.S.B.* (2),
 1904, suppl.]
 92. *Gonyocephalus bellii* (D. & B.) ... Bengal.
 93. " *grandis* (Gray.) ... Pegu.
 94. *Acanthosaura armata* (Gray) ... Burma.
 95. " *crucigera*, Blgr. ... Tenasserim.
 96. " *lamnidentata*, Blgr. ... Lower Burma.
 97. *Acanthosaura minor* (Gray.) ... Sikhim and Assam.
 98. " *kakhiensis* (Anders.)... (= *Calotes fææ*, Blgr.) Burma.
 99. *Acanthosaura major* (Jerd.) ... W. Himalayas.
 100. " *tricarinata* § (Blyth.) Sikhim.
 101. *Japalura andersoniana*, *§ Annand. (*Antea*), N.E. Assam.
 102. " *variegata*, Gray ... Sikhim, Assam and Bengal.
 103. " *planidorsata*, Jerd. ... Assam; Sikhim.
 104. *Salea horsfieldii*, Gray ... S. India; Ceylon (?); Burma; N. E.
 Assam.
 105. " *anamallayana* (Bedd.) ... Anamallay and Patni Hills, S. India
 106. *Calotes microlepis*, Blgr. ... Lower Burma; Manipur.
 107. " *cristatellus* (Kuhl.) ... Tenasserim.
 108. " *jubatus* (D. & B.) ... Nicobars.
 109. " *versicolor* (Daud.) ... All India, Burma and Ceylon.
 [*C. gigas*, Blyth = *C. versicolor* (Daud.)]
 110. *Calotes maria*, Gray ... Assam.
 111. " *jerdonii*, Gthr. ... "
 112. " *emma*, Gray ... Burma and Assam.

113. *Calotes mystaceus*, D. & B. ... S. India, Ceylon, Andamans and Nicobars.
114. *Calotes grandisquamis*, Gthr. ... Malabar.
115. *Calotes nemoricola*, Jerd. ... Nilgiris; Malabar.
116. *Calotes ceylonensis* (F. Müller) ... Ceylon.
117. *Calotes liolepis*, Blgr. ... "
118. *Calotes undamanensis*,* Blgr. ... (Boulenger, *Ann. Mag. N.H.*, 1891) Andamans.
119. *Calotes ophiomachus* (Merr.) ... Ceylon; S. India; Nicobars.
120. " *nigrilabis*, Ptrs. ... Ceylon.
121. *Calotes liocephalus*, Gthr. ... "
122. *Calotes rouxii*, D. & B. ... Bombay Presidency; Travancore.
123. " *elliotii*, Gthr. ... S. India.
[*Calotes fess*, Blgr. = *Acanthosaura kakhienensis* (Anders.)]
124. *Charasia dorsalis* (Gray) ... S. India (hills).
125. " *blanfordiana*, Stol. ... Central India.
126. " *ornata* (Blyth) ... Central and North-Eastern India.
127. *Agama isolepis*, Blgr. ... N.W. India.
128. " *rubrigularis* § (Blanf.) ... Sind.
129. " *megalonyx** (Gthr.) ... Baluchistan (*Antea*).
130. " *tuberculata*, Gray ... Kashmir and W. Himalayas.
131. " *dayana* (Stol.) ... Foot of W. Himalayas.
132. " *himalayana* (Steind.) ... Upper Indus Valley.
133. " *agorensis* § (Stol.) ... N. W. India (high altitudes).
134. " *melanura* (Blyth) ... Sind; Panjab; W. Himalayas.
135. " *lirata* § (Blanf.) ... Sind; Baluchistan.
136. " *nupta*, De Fil. ... " " Chitral.
137. " *caucasica* (Eichw.) ... Baluchistan.
138. *Phrynocephalus olivierii*, D. & B. ... Baluchistan.
139. " *theobaldi*, Blyth ... Upper Indus Valley.
140. " *caudivolvulus* (Pall.) ... Ladak.
141. " *ornatus*, Blgr. ... N. Baluchistan.
142. " *maculatus*, Anders. ... " "
143. " *euptilopus*,* § Alo. & Finn ... [Alcock and Finn. *op. cit.*]
144. " *luteoguttatus*, Blgr. ... " "
145. *Liolepis bellii* (Gray) ... S. India; Burma.
146. *Uromastix hardwickii*, Gray ... N. W. India.
147. " *asmussii** (Strauch) ... Baluchistan [Alcock and Finn. *op. cit.*].

ANGUIDÆ.

148. *Ophisaurus gracilis* (Gray) ... N.E. India; Sikkim; Assam
Upper Burma.
149. " *apus** (Pall.) ? ... N.W. India ? (*Antea*.)

VARANÆ.

150. *Varanus griseus* (Daud.) ... N.W. India (deserts).
151. " *flavescens* (Gray) ... N. India; Burma.
152. " *bengalensis* (Daud.) ... Peninsular India and Ceylon;
Burma ?
153. " *nebulosus* (Gray) ... Central Provinces (?); Bengal;
Burma.
154. " *dumerilii* (Müll.) ... Tenasserim.
155. " *salvator* (Laur.) ... N. E. India; Ceylon; Burma
Andamans and Nicobars.

(To be continued.)

9. *Archæologisch Onderzoek op Java en Madura. I Beschrijving van de ruïne bij de Tesa Toempang, genaamd Tjandi Djago. Batavia, 1904.*—By FATHER DAHLMANN, S.J. *Communicated by the Philological Secretary.*

A magnificent volume of Archæological research has lately been presented to the Asiatic Society by the Batavian Society of Letters and Arts. It is the first outcome of the researches conducted by the newly established archæological survey in the Dutch East Indies, and it treats of one of those highly interesting relics of true Indian Art, so profusely scattered over the whole ground of Middle and Eastern Java. Although I cannot claim any title to introduce to you this admirable work—yet the favourable opportunity I enjoyed of visiting Java on my way back from China and of personally examining some of its most distinguished monuments, may perhaps excuse my saying a few words about the results embodied in this volume. I am all the more anxious to do this for the Asiatic Society in that it was a distinguished English statesman and administrator in the Far East, who gave us the first accurate and scientific knowledge of the monumental antiquities of Hindoo civilization in Java. I refer to Sir Thomas Stamford Raffles, Governor General of Java and its dependencies. This distinguished member of the Asiatic Society, inspired by that high enthusiasm for Indian research which led to so many discoveries, revealed to us for the first time a new world of Indian art in his masterly History of Java. I say “masterly:” for when we remember that until his time nothing had been done to clear the way for the study of the relics of Hindoo Religion and Art once predominant in Java, everyone must be surprised at the vast and minute learning with which Raffles introduced into the descriptive and figurative details of research. His History of Java gave the first impulse to closer investigation of the grand monuments. But although since his time some remarkable works have been published by distinguished members of the Batavian Society, it was long before a methodical inquiry, covering the whole ground of ancient Hindoo relics, could be inaugurated—perhaps according to a German proverb, “Gut Ding hat Weile,” “a good thing needs time.” And indeed it is a good thing, in fact an excellent thing, which finally has been brought forth by the Archæological Survey of the Dutch East Indies under the leadership of its talented Director General, Dr. Brandes.

The volume presents to us a complete archæological picture of a Buddhist Sanctuary in Eastern Java, now-a-days called Tjandi Toempang. The monument described is neither one of the earliest nor one of the finest works produced by the Hindoo artists in Java. For the monuments erected in the Eastern Kingdoms of Hindoo Princes show, in style and workmanship, a remarkable decline from what we admire in the artistic beauty developed at a much earlier period in Central Java. If we look for the monuments of the classical period, we must turn our eyes to Boro-Bodur and

to Prambanam. We might have perhaps expected that the systematic research now inaugurated would begin with those masterpieces of art. The survey has taken a contrary course, beginning with Eastern Java, where art was in its decline and leading investigation from the latest relics of true Indian art to the earliest and at the same time the most glorious representatives of Indian workmanship.

I say "true Indian art." For when you go through the splendid photo-series illustrating this volume, you will immediately be impressed by the truly Indian character of the ornament. This is not only the case with the decorative ornament in general. The true Indian character shines forth above all in the sculpture cycles decorating the terraces of the monument. It was one of the characteristic features of the Hindoo artists in Java, that they decorated the walls not only with detached sculptures and statues, but with a continuous line of scenes representing a whole cycle of legends. They reached their highest perfection in the sculpture cycles of central Java. At the Brahmanical sanctuary of Prambanam—the legend of the Rāmāyana is worked out in a splendid set of reliefs. But in the Buddhist sanctuary of Boro Bodur we have the whole legend of the life of Buddha as told in the Lalitavistara, put before our eyes within the frame of more than sixty reliefs. Another series of sculptures represents in continuous line more than thirty Jatakas, that is to say, more than all the Buddhist monuments of India proper and of Afghanistan together contain. Besides there is another sculpture cycle of more than sixty highly-refined reliefs, of which the meaning has not yet been discovered. We meet with the same characteristic feature in the monument described in the present volume.

The Sanctuary is mounted on a threefold terrace, one terrace rising above the other. The walls of every terrace have their peculiar cycle of legends. In the first terrace we meet with a set of legends evidently taken from the fables of the Pancatantra; the reliefs of the second terrace represent scenes of the Rāma legend; those of the third terrace give the Arjunavivāha and especially Arjuna's fight with Çiva; finally the walls of the Sanctuary itself are decorated with scenes of the Kṛishṇa legend. So we see here united within the architectural limits of a small sanctuary a good number of favourite topics of Hindoo epic poetry.

Now as regards artistic workmanship the sculpture-cycles of Tjandi Toempang are, as I have already pointed out, far inferior to those found in Central Java. For comparison's sake I have laid before you a few of my own photos, representing scenes of the sculpture cycles either of Boro-Bodur or of Prambanam. Nay, the artistic value of our Tjandi must be held even much inferior to the reliefs of Panataran, lying in the same region of Eastern Java.

But it is not the artistic value, which gives to the sculpture-cycles here represented their importance. This is to be sought for in quite another line of comparison.

The artists of the classical period of Hindoo art in Java closely followed the original Sanscrit texts when representing their legendary objects. The legends, as told either in the original Rāmāyana and Mahābhārata or in the original Lalitavistara, were the models put before the eyes of the workmen of Central Java. In Eastern Java, on the contrary, it is no longer Hindoo epic poetry as contained in the original epic, but Hindoo poetry remodelled in the old Javanese Kavi translation. The scenes of the first terrace, although closely resembling some legends of the Pancatantra, follow the old Javanese Tantra, which itself is based on the original Pancatantra or on the Hitopadeça. The cycle of the second terrace follows the Rāma legend as told in the old Javanese Rāmāyana. And so with the legend of Arjuna in the third terrace and with the Kṛishṇa legend on the walls of the Sanctuary. It is therefore as a Javanese reflex of Hindoo poetry, that is to say, as a typical old Javanese development of Hindoo thought and Hindoo life,—an outcome of that continuous Hindoo influence, spread over the country for so many centuries—that the monument before us should be viewed and a place assigned to it in the history of Indian art in Java. In these sculptures we must look therefore for the true representative of all those literary and artistic characteristics which Hindoo civilisation finally developed on Javanese ground and which, combined together, make out the proper and original type of old Javanese civilisation.

But there is yet another remarkable point to be noted in our monument; a point which is of considerable importance with regard to the religious and artistic development of Hindoo belief not only in Java but over the whole sphere of India.

Look at the decorative element of our sanctuary. You will find nothing in it indicative of a work of Buddhist devotion. The sculpture-cycles, in which Çiva plays such a remarkable part, might lead you to say that Tjandi Toempang is a monument of Çiva worship.

But this is not the case. Although the ornament is all Brahmanical and as regards the sculpture cycles rather Çivaite, the monument itself was consecrated to the worship of the five Dhyāni-Buddhas and of three Tārās or mystic powers. This becomes evidently manifest in the splendid statues representing separately the Dhyāni-Buddhas and their Tārās. And if there could be a doubt about the character of these statues, the old Nāgari inscriptions, giving to every statue its proper signification would dispel it.

How is this fact, that is to say the close connexion of Çivaite art and Buddhist worship, to be explained.

The foundation of the Sanctuary, according to an inscription found at Tjandi Toempang is to be assigned to the first half of the thirteenth century. Hindoo society in Eastern Java was at that time absolutely Çivaite; it had been Çivaite ever since the seventh and eight century and remained Çivaite in spite of the Buddhist influence spreading over the country. Buddhism

became in the ninth century so strong that it could give rise to monuments of such splendour as we see in Boro-Bodur and in its neighbourhood. It is as if a mighty wave of Buddhist influence had suddenly come over Hindoo civilisation, established in Java on a thoroughly Brahmanical ground, either Çivaite or Vishnuite. Later on this Buddhist wave lost its strength amidst Çivaite and Vishnuite worship, rooted deeper and spreading farther its branches amongst the Hindooised population.

But in the beginning of the thirteenth century a second wave of Buddhist influence reached Java on its eastern shore. This second wave came evidently from the south of India and gained some temporary ascendancy in the mighty kingdom of Madjapahit. That there must have been such an influence coming from the south, long ago, was pointed out by Burnell in his South-Indian Inscriptions. He found evidence of it in the close resemblance of the Nāgāri type of inscriptions we find in connexion with the statues to the Nāgāri type of South India. He was only wrong about the epoch, saying that according to the resemblance of types this influence must have been exerted in the eleventh century. The writing of the inscriptions closely resembles the Nāgāri character of the first half of the thirteenth century, which is quite in accordance with the age of the monument, as attested by the inscription of King Vishnuvardhana. The monument described is therefore a new proof of the fact that Buddhism was yet existing in the south of India at the beginning of the thirteenth century, as in fact it existed in the north of India. But at the same time it is evident that Buddhism as developed in the Mahayāna, had entered into a close religious and artistic alliance with Çiva worship. With regard to this the Sanscrit inscription found in Kasia in the North-Western Provinces and recently interpreted by Prof. Kielhorn of Göttingen gives a striking parallel.

The inscription in the two first lines celebrates Çiva; in the third line Tārā, the Buddhaçakti is mentioned *disertis verbis*. In the fourth and fifth line Buddha is celebrated as Tathāgata and Munindra. So we find in the north of India the same connexion of Çiva on the one side, of Buddha and its Çakti on the other side that we meet with in the eastern part of Java.

The few words I desired to say have become many. But they are, I hope, not quite out of place, since they tried to show how much light the religious and artistic development of Hindooism in Java may yet throw on the whole history of Indian religion and art. Further research may perhaps lead to the discovery of a page of the history of Indian art, lost in India proper and preserved in the Hindooised island far away.



10. *Anuruddha Thera—a learned Pāli author of Southern India in the 12th Century A.D.—By PROF. SATIS CHANDRA VIDYABHŪṢAṆA, M.A.*

With the rise of Buddhism the Pāli language rose to prominence in the 6th Century B.C. From that time to the close of the 1st Century B.C., that is, for nearly five hundred years, the Buddhist books including the well known Tripiṭakas, which were rehearsed in the three famous Buddhist councils, were used to be written principally in the Pāli language. But since the rise of the Mahāyāna school of Buddhism under the auspices of the fourth Buddhist Council that was held in Kāśmīra about the beginning of the Christian era, Sanskrit has been chosen as the principal medium of Buddhistic communications and the Buddhistic books have generally been written in the Sanskrit language.

Thousands of Indian books written in the Sanskrit language have recently been recovered from or traced in Nepal, Tibet, China, Japan, etc. But very few Indian books written in the Pāli language have been obtained from those places. Are we then to suppose that with the rise of the Mahāyāna school about the 1st Century A.D., the use of the Pāli language in the sacred scriptures was altogether stopped in India? I daresay the answer is no, for, even in the 5th Century A.D., when the Mahāyāna school attained its highest development, India produced several eminent Pāli writers of whom Buddhaghōṣa¹ stands as the foremost. In the Ceylonese records² we find indications that even up to the year 1462 A.D. Ceylon used to derive some of its Pāli literature from India and Buddhist monks were in large numbers sent to Ceylon by the Southern Indian kings of the Choḷa and other dynasties. It is not within the scope of this paper to enumerate all the Pāli writers that flourished in India between the 1st Century A.D. and 15th Century A.D. In the present paper I shall give a brief account of only one of the many Pāli writers that adorned India during that long period. The name of this writer was Anuruddha Thera.

Anuruddha was the author of three works in the Pāli language, *viz.*, *Abhidhammatthasāṅgaha*, *Paramatthavinicchaya* and *Nāma-rūpa-pariccheda*. Besides, he was the author of a didactic Buddhistic poem in classical Sanskrit which is generally known under the name of *Anuruddha-śataka*.³

¹ Vide *Mahāvamsa*, chapter XXXVII.

² *Mahāvamsa*, Rājāvali, Rājaraṭnākari, *Saddharmāṅkārā*, commentary on the *Visuddhimagga*, etc.

³ In the *Saddhammasāṅgaha*, chap. IX, verses 14, 15, London Pāli Text Society's edition (*Vide* J.P.T.S., 1890), two Pāli works of Anuruddha have

In the Saddhammasaṅgaha and Paramatthavinicchaya it is stated that Anuruddha was born in Kāñcipura on the Kāveri where he spent the early part of his life as a Buddhist priest. He gradually rose to the position of Saṅghanāyaka or High-priest. Subsequently he went to Tinnevely and Tanjore and resided there for some time for the propagation of Buddhism. Afterwards he went over to Ceylon and was admitted into the priesthood of the Uttaramūla monastery. He is mentioned in the Sataka as an *upasthavira*, but in the Saddhammasaṅgaha and other books he is described as a *thera*.

The Uttaramūla or Uttarola monastery¹ originated in Ceylon at the latter half of the 11th Century A.D. Anuruddha who belonged to that monastery² must therefore have lived after the 11th Century A.D.

In the Mahāvamsa³ it is stated that Vijayabāhu I, who was King of Ceylon from 1065 A.D.—1120 A.D., sent messengers with gifts to the Rāmañña country unto his friend the King of

been mentioned, *viz.*, Abhidhammatthasaṅgaha and Paramatthavinicchaya, Thus we read there:—

अनुबद्धेन धेरेन कश्चिपुरवरे वरे ।

पकरां कतं तेन परमत्यविनिष्कम्बम् ॥ १४ ॥

अनुबद्धाभिधानेन धेरेन रचितम् इदम् ।

परमत्यप्यकासेतुम् अभिधम्मत्यसंगहं ॥ १५ ॥

(सङ्गमसंगह, परिच्छेदे ६) ।

Elsewhere we find the mention of two other works of Anuruddha, *viz.*, Nāmarūpapariccheda and Sataka. The Abhidhammatthasaṅgaha has been published by the Pāli Text Society of London, and the Sataka by the Buddhist Text Society of Calcutta.

¹ Mahāvamsa, chap. LVII, verse 20.

² न्योत्तना हिमांशोरिव यन्मुखेन्दो-

निस्सन्दते स्रष्टिरसौ सुधौरः ।

इदं व्यधत्तोत्तरमूकहार-

रत्नाङ्गरोपस्यविरानुबद्धः ॥ १०१ ॥ (अनुबद्धप्रतक) ।

³ Mahāvamsa, chap. LX, verse 5.

Anuruddha to bring from there some learned Buddhist monks and elders of the church. I have reasons to believe that the Rāmañña¹ country was identical with the kingdom of the Pallavas that lay in the Coromandel coast, and "the King of Anuruddha" was the Pallava King in whose territory Anuruddha was born and from whose territory learned monks including Anuruddha himself were taken over to Ceylon. Anuruddha must on this supposition have gone to Ceylon early in the 12th Century A.D. when Vijayabāhu I was King of the island.

Kāñcipura in which Anuruddha was born is identified with modern Conjeeveram, 43 miles south-west of Madras. It was the capital of the ancient kingdom of Drāviḍa and was the residence of the kings of the Pallava dynasty till that dynasty was overthrown by the Cholas at the close of the 11th Century A.D. Rājarājendra Kulottuṅga Chola I, who reigned from 1064—1113 A.D., is said to have completely crushed the power of the Pallava kings and to have destroyed the city of Kāñci. He, however, subsequently rebuilt and greatly improved that city but selected Tanjore as the permanent place of residence of the Chola kings. Anuruddha, we have seen, lived both in Kāñci and Tanjore.

It may be noted here that the Pallava Kings who reigned in Kāñci were staunch Buddhists and belonged to the Sthavira school. It has already been stated that they were overthrown by the Cholas in the 11th Century A.D. From that time downwards they remained as vassals under the Chola kings. The last mention of the Pallavas as a dynasty occurs, as far as it is known at present, about the year 1223 A.D. In 1310 A.D. the Cholas being conquered by the Mahomedans Kāñci passed into the hands of the conquerors. Early in the 12th century A.D. Rāmānuja, the celebrated Vaiṣṇava preacher, flourished in Śriperumātur, 18 miles east-north-east of Kāñcipura, and converted the kings of the Chalukya, Chola and other dynasties into his religion. The Buddhists were henceforth persecuted by the Vaiṣṇavas of the Rāmānuja school as well as by the Mahomedan conquerors. Still Buddhism lingered for some time in Kāñcipura or Conjeeveram and finally disappeared from it at the close of the 15th Century A.D. Anuruddha Thera, who flourished in Kāñcipura early in the 12th Century A.D., was by no means the last Buddhist Pāli scholar of that city.

¹ In Burmese books we find, however, that Anaurata or Anuruddha was the 42nd (or 44th) King of Pagan and Rāmañña or Ramaṅgia is the country round Thaton. Vide Bigandet's Legend of Gaudama, Vol. II, pp. 145-146 (3rd edition). Rev. T. Foulkes observes:—"Sir Emerson Tennent guesses that this Kingdom of Aramana [Rāmañña] may be a part of the Indo-Chinese Peninsula probably between Arracan and Siam; and Turnour had already, without giving any authority, fixed it in Arracan; but the passages in the Rājaratnākari, the Rājśvali and the Mahāvamsa, in which it is mentioned, clearly locate it on the Coromandel coast; and, as it is not Pāndya nor Chola, the only part of that coast which remains is that which lies between Chola and Kalinga, namely, the old dominions of the Pallavas." The Indian Antiquary, Vol. XVII (1888), page 126.

11. *The Colouring Principle of the flowers of Nyctanthes Arbor-tristis.*—By E. G. HILL, B.A.

The *Nyctanthes Arbor-tristis*, known in Urdu as "Harsinghar," is a large shrub of the order Oleaceæ. The flowers are sessile in bracteate fascicles, they are pedunculate and are arranged in short terminal trichotomous cymes; the corolla tube is orange, and the limb white. The flowers open at night and fall to the ground the following day. They are then collected for use in dyeing. The plant grows most abundantly in the sub-Himalayan districts.

For use in dyeing, the flowers are steeped or boiled in water and the solution strained off. It is a beautiful rich golden-yellow, and dyes cotton fabrics without a mordant. The effect is transitory, the colour fading slowly. When used with alum or lime-juice the colour is brighter and less transitory, but the chief use of the dye is in combination with turmeric and safflower. It is seldom used with indigo. It is sometimes employed for colouring fancy leather-work. With safflower, turmeric, red ochre, myrobalans and sulphate of iron it gives a fast maroon-brown, and with *Butea frondosa* and indigo and acidulated water, a fast grape green.

No reference has been found to this flower in the chemical literature at my disposal, but in 1902, A. P. Sirkar made in my laboratory, a preliminary investigation into the colouring principle, which he considered existed in the flowers as a glucoside. He was unable to obtain this in a pure state, owing to its sparing solubility in most solvents, but he suggested $C_{15}H_{21}O_6$ for the colouring matter, although on boiling this with dilute hydrochloric acid, he obtained a substance with a brighter colour and a higher percentage of carbon. He also considered that there were two methoxy groups present in the compound and at least one carbonyl group.

The most noticeable feature of the colouring matter was the high percentage of hydrogen which was invariably obtained on combustion.

The method of work was as follows:—

Aqueous extract.—The flowers were extracted in cold water and the extract carefully filtered. The infusion was light-yellow in dilute, and dark-brown in concentrated solutions. It had a great attraction for flies. The infusion gave an acid reaction with litmus, and a yellow precipitate with basic lead acetate which became yellow on addition of ammonia. With copper sulphate it gave a pale-yellow precipitate, which became green with ammonia. Stannous chloride gave a turbidity which disappeared on adding acetic acid. Ferric chloride gave a greenish-black colour which darkened on adding ammonia. Fehling's solution was reduced, as were also gold chloride and ammoniacal silver nitrate. It gave no reaction with gelatin. When a few drops of the infusion were carefully added to a few cubic centimetres of concentrated sulphuric acid, an intense blue

colour was produced at the junction of the two liquids. This soon darkened and disappeared.

When the infusion was allowed to stand for a few days alone, a reddish-brown deposit settled. If a little hydrochloric acid was added to the infusion, a reddish flocculent precipitate settled after about twelve hours. A similar precipitate was obtained by heating the infusion with basic lead acetate, decomposing the washed yellow precipitate with sulphuretted hydrogen, and warming the yellow solution obtained on filtering. The amount obtained was always very small, but attempts to get more from the solution by heating on the water-bath with dilute hydrochloric acid resulted in the deposition of a black amorphous substance. When dried, it was very light and friable, and varied in colour from a very dark-brown to a jet black. On evaporating the solution after removal of this black substance, it was found to contain a sweet substance, which reduced Fehling's solution on boiling.

About two grains of the red colouring matter were collected, and washed with water. On boiling with alcohol a large quantity dissolved, and the residue appeared to consist of mineral matter. The alcoholic solution on evaporation gave a dark-red lustrous deposit. This was entirely soluble in alcohol. Thus obtained, the substance melted between 250° and 260° , dissolved in alcohol, ethyl acetate, and ether, but it could be made to crystallize from none of these. It also dissolved readily in alkalis and alkaline carbonates, and in a solution of borax. It was sparingly soluble in chloroform and carbon bisulphide, insoluble in benzene and cold water, very slightly soluble in hot water, and soluble in acetic acid.

Alcoholic extract.—Owing to the apparent high solubility of the colouring matter in alcohol, some of the flowers were extracted in a Soxhlet apparatus with alcohol (sp. gr. .810) till they were colourless, and the hot alcohol was then allowed to cool. On cooling, bunches of needle-like crystals had settled all over the flask. These were pale-yellow, but after several recrystallizations became white. They had a sweet taste, reduced a solution of ammoniacal silver nitrate, but did not rotate polarized light.

Analysis gave:—

Carbon = 39.62
Hydrogen. = 7.96

Mannitol } requires $\left\{ \begin{array}{l} C = 39.57 \\ H = 7.7 \end{array} \right.$
 $C_6H_{14}O_6$

The crystals melted at 166° ;
Mannitol melts at 168° .

When the filtrate from the mannitol was slightly evaporated and cooled, no further precipitation occurred, but a small quantity of wax separated. The residue contained crude colouring matter with some resinous products. To obtain the colouring principle,

the alcoholic solution was heated with dilute hydrochloric acid, when a bright scarlet product was obtained. This was filtered off and washed with alcohol.

The yield was very small, but thus prepared, the colouring principle was only very slightly soluble in all solvents. If dissolved in large excess of alcohol and allowed to evaporate the colouring principle deposited a microscopic powder which seemed to be crystalline when viewed under an oil immersion ($\frac{1}{18}$).

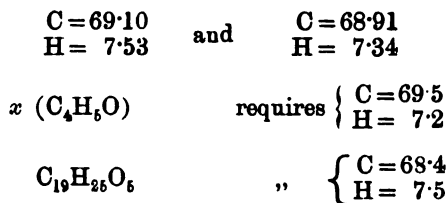
Preparation of the colouring principle.—Since the above method was obviously not adapted to the preparation on a large scale, the colouring matter obtained by hydrolysis of the aqueous extract was dissolved as far as possible in alcohol and the solution heated with hydrochloric acid, when, as a rule, the bright red colouring principle was deposited. It was only possible to work with small quantities at a time, and in some cases black tarry products resulted at once with no red deposit at all. Moreover in some cases it appeared that the hydrolysis of the aqueous solution resulted at once in precipitation of most of the colouring principle, in which case the precipitate from the acidified water solution would not dissolve to any extent in alcohol, and the colouring principle could not be extracted by this method. The extraction was thus attended with great difficulty, and it was found that the best method was to keep solutions dilute, not to add too much acid, and not to boil. The flocculent precipitate from the aqueous extract was then moderately soluble in alcohol, and on warming the alcoholic solution with hydrochloric acid a red precipitate settled down which could be easily filtered off. This red precipitate was washed with alcohol and water, and the purified product collected.

For a long time this could not be obtained pure, but it was eventually found to crystallize from pyridine and toluene. In the former of these it was very soluble, in the latter moderately so.

The crystals were apparently of two kinds—one yellow and one red, but on gently warming the yellow crystals they became red.

The melting point of the crystals was 225° — 230° . They were tested for methoxy groups by Ziesel's method; none were present.

Two combustions of an incompletely purified sample (it yielded a trace of ash on combustion) gave:—



Several other combustions of other samples had been made in the course of the work. Results varied from 68.60 to 70.36 for carbon, and 7.34 to 8.3 for hydrogen. The author thus

does not attach importance to the formulæ mentioned above. It is certain, however, that Sirkar's results are useless.

Properties of the colouring matter.—The red crystals were practically insoluble in water, *very* slightly soluble in ether, benzene, alcohol, ligroin, moderately soluble in toluene, and readily in pyridine. With strong sulphuric acid they gave an intense blue compound which rapidly became yellow through apparent absorption of atmospheric moisture.

The author hopes to complete the investigation on some future occasion.



12. *The Monasteries of Tibet.**—By Rai SARAT CHANDRA DAS Bahadur, C.I.E.

INTRODUCTION.

Tibet is the land of monasteries. Her history chiefly comprises records of the establishment of monasteries and temples and their endowments by the State, chiefs and nobles of the country, commencing from the middle of the 7th Century A.D., to the 18th Century.

There are eighteen different Buddhist sects, out of which four are widely distributed all over higher Asia including Tibet, Mongolia and Western China. Of these four sects three, *viz.*, Sakya, Dûk-pa and Ning-ma have the red-cap, which they use during religious services only, to distinguish them from the remaining 15 sects. The fourth which is the reformed sect and therefore the purest of all, has become dominant since the middle of the 17th Century. Its monks use the yellow-cap. The Dalai Lama is the head of this Church.

In the official register at Lhasa, in 1882, the total number of monasteries belonging to the Yellow-cap Church was 1026 with 491,242 monks. Out of this number, 281 monasteries belonged to the provinces of Ü and Tsang which constitute Tibet proper, 150 to the provinces of Nyang, Lhobrag and Kong-po; 27 to Upper Kham; 154 to Lower Kham and 414 to Ulterior Tibet which is called *Poi-Ohen* or greater Tibet. In this list village-monasteries and *Mani-lhakhang* (prayer-wheel temples) have not been entered.

The number of monasteries belonging to the three red-cap sects, is a little more than the total of the Yellow-cap Church institutions. This would bring the total of the monasteries of all the 18 sects to over 2,500 and that of the monks to about 760,000.

In Tibet every third boy in a family, as a rule, is sent to the monastery, in consequence of which the male population of the country may be roughly estimated at $2\frac{1}{3}$ to 3 millions.

The Yellow-cap Church Lamas take the vow of celibacy, which circumstances precludes them from keeping female company. But many among them while residing abroad seldom conform themselves to monastic discipline.

The miserable pittance which the monks of even the State-supported monasteries get for their subsistence, hardly exceeds three *Tanka*, *i.e.*, $1\frac{1}{2}$ Re. a month. Owing to this, about one-fifth of the monks in a monastery generally turn into traders. Many among them become mendicant priests and roam over the country in quest of the necessities of life. These are called *Tāpā* or monastery-boys. The agricultural population often regard them with dread for their irregular habits of life and clamouring for alms.

There are few convents in Tibet and the number of nuns (*Tsünmo*) in them is very small. While the largest monastery contains 10,000 monks, the largest convent can hardly count 100

* Compiled from *Pagsam Jon sañ* and other Tibetan historical works.

nuns for its inmates. The nuns of Tibet have the reputation of being pure as only the most religiously disposed among the fair sex betake themselves to monastic life. The red-cap Lamas generally keep concubines called *Ani* who often dress as nuns.

Marriage being the exclusive privilege of the eldest brother in a landholder's family, the younger brothers seldom care to share the bed of the house-wife with him which the custom of the country allows. They generally keep concubines. It is true that there is marriage among the rich cultivators and herdsmen, but the majority of the common people make family in wedlock either singly or jointly. Thus, side by side with polyandry, concubinage has become a popular institution in Tibet. Out of 100, 99 people keep concubines. This explains the question as to what becomes of the majority of the female population who remain unmarried. The Tibetan male is generally less jealous than the Tibetan female which circumstance has given rise to the formation of that much despised relationship called *Nyamdo-pün*, i.e., brotherhood in wedlock *versus* brotherhood in matrimony which is polyandry pure and simple.

RA-DENG.

ར་རྟེན།

The monastery of Radeng was founded by Dom-ton-pa¹ in the year 1056 A.D. Many predictions were on record in some of the sacred books such as Mañjuçri Mūla Tantra,² Phalpo-che, Do ŋiñ-je Padma Karpo,³ etc., as to the rise and progress of a great school and monastery in the centre of Tibet. Conformably to them, Dom-ton-pa founded Ra-deng in one of the finest spots of Ü,⁴ rich in various kinds of alpine vegetation. The valley of Ra-deng is clad in thick forests of firs, cedars, cypresses, and junipers. It abounds in numerous brooks and fountains, which yield very good water. Nine mountains, the culminating cliffs of which have various slopes, form the back-ground of this famed old monastery. Many kinds of medicinal plants grow on these hills.

At this charming place which was possessed of many auspicious signs essential to the site of a sacred Buddhist institution, Dom-ton-pa built the monastery of Khyungo-chan, or "Eagle's head," in the vicinity of the hill of Senge-tag⁵ (lion's rock). The valleys which open to the east and west of Ra-deng have spacious plateaus rich with verdure. On account of the tall and horn-like shape of the trees growing in this place, the monastery of

¹ འབྲོམ་ཕྱེན་པ།

² འཇམ་དབལ་ཙུ་གུད།

³ མདོ་སྟོང་ཇེ་དཀར་པོ།

⁴ དབུས།

⁵ སེང་ཏག་གྲུ་ག།

Khyungo-chan¹ was called Ra-deng from (rwa, 'a horn,' and sgreng, 'standing erect.') The large silver tomb which contains Atiça's² remains is the most remarkable of all the sacred objects of Ra-deng. The central chapel of the monastery contains a complete set of the images of the *Tantrik* pantheon, in which Buddha is observing the triple vows, Maitreya watching the course of the world, and the four gods of medicine (Manlha)³ looking to the four quarters as in life. Outside the cupola of the great *Chorten* was constructed the mansion of the chief *Tantrik* deity of *Guhya Samāja* (the mystic commune) with a number of mystical gods, all in relief. When the erection of the monastery with the images was completed, Dom-ton-pa is said to have propitiated the god of the *Tushita* heaven to enable him to have his monastery consecrated by his spiritual father. Accordingly, Atiça, who was then seated on the right of Maitreya, the coming Buddha, showered flowers toward Ra-deng from *Tushita*. Dom-ton-pa presided over the monastery for eight years.

At Ra-deng there is a golden image of Milaras-pa, the famous Buddhist saint. It is said that the *Jungar* Mongolian Chief, who persecuted the *Niñ-ma*⁴ Buddhists in 1716, on his way to Lhasa visited Ra-deng, and was much astonished when he was told that the hair on the head of the saints' image was not artificial. In the library of Ra-deng there were many rare ancient Sanskrit works kept sealed by the Government of Lhasa. Ra-deng was the chief seat of the first and the earliest Buddhist hierarchy of Tibet and belonged to the *Kahdam-pa* School.

The Monastery of GAH-DAN.

དགའ་ལྷན་རྒྱལ་པོ་རྒྱལ་བའི་སྒྲིང་།

Tsong-khapa the great Buddhist reformer of Tibet, in fulfilment of a certain prophecy of Buddha, in the year 1408 A.D., established the grand annual prayer congregation of Lhasa, called the *Mon-lam*⁵ chen-po. After making offerings to the gods he prayed for the welfare of all living beings. In the autumn of the same year he examined the auspicious signs regarding the suitability of a plot

¹ ལྷ་མོ་ལྷ།

² ལྷ་མོ། The name by which Dipaṅkara Crijāna the high-

priest of Vikrama Īla Vihāra of Magadha is known all over Tibet. He was Dom-ton-pa's spiritual teacher and died at Ne-thang near Lhasa only three years before the foundation of the monastery.

³ ལྷ་མོ།

⁴ ལྷ་མོ།

⁵ ལྷ་མོ་ལྷ།

of land situated on the hill of Dok-poiri¹ with a view to erect on it a great monastery. In the rocks of that hill he observed many religious symbols such as the sacred mystic syllables "Om mani-padme hûm, om vajra pâni hûm," etc., and seeing that there was some scarcity of water, he touched with his hand the water of a little fountain that trickled down. On further examination the fountain proved to be the source of a streamlet. In the midst of the rocks of Dok-poiri he found several fossil conch-shells one of which having its whorls from right² to left was believed to have been used by the Buddha himself. From a rock-cavern in the neighbourhood he unearthed a mask believed to have been used by the Lamas during King Thisong-deu tsan's³ time. It had the miraculous power of dispelling all the evil spirits of the place. On this auspicious place Tsong-khapa laid the foundation of the world-renowned monastery of Gahdan. Within the remaining months of the year the Dukhang-Uma⁴ (central congregational hall), seven cells for the residence of monks, and a building for the high-priest's residence, were finished. As soon as the monastery approached completion, presents of gold, silver, precious stones, and other articles from the pious flowed to it from different quarters. The number of monks increased every year. Tsong-khapa furnished the monastery with numerous religious books, objects and symbols. In the 64th year of his age he erected the *Tsang-khang*⁵ the principal chapel in the monastery. This was followed by the *Gon-khang*,⁶ the chapel of the hideous looking gods of mysticism. Then were constructed the *Khyamra* or courtyard, and overhanging it all round, porticos resting on 70 pillars. The *Tsang-khang* or chapel of worship was provided with a large image of the Buddha, three superb mansions of the gods of the *Tushita* heaven made of precious stones, with Bhairava, Mañju Çri, the deities presiding over the destinies of all living beings of the world and with the huge images of the four Lokapâla. He also enriched the library with many rare books of Buddhism. At Gahdan there are now only two colleges for religious instruction to 3,300 monks, viz:—

- (1) Çar-tse Tva-tshang,⁷ where metaphysics are taught.
(2) Chyang-tse,⁸ where esoteric Buddhism and mysticism are taught.

¹ འདོག་པོའི་རི།

² རུང་དཀར་གཡས་འཕྲོམ་།

³ ལྷི་ལྷོང་ལྷོ་བཙན།

⁴ འདུ་ཁང་དུས་མ།

⁵ བཀའ་ཁང་།

⁶ མགོན་ཁང་།

⁷ འཇར་ཅེ་གྲུ་ཁང་།

⁸ བྱང་ཅེ།

Later on, during the ministry of Tsong-khapa's illustrious successors, the monastery became converted into a grand university both for secular and religious education.

In the temples erected by *Gyal-tshab*¹ Darma Rinchen and Dul-dsin the most remarkable object is the Nam-gyal² *Chorten*,³ which contains the remains and personal properties of the great reformer. A satin tent hangs over the altar containing the urn. During the ministry of Gedun Phun-tshog Lozang Tanzing,⁴ Tashi Badur the great Khan of Kokonar covered the silver tomb of Tsong-khapa with thin plates of gold. (The gold used there is said to have been one year's revenue derived from Kham). On the right and left of this central tomb-*chorten* there are the tombs of the disciples and the illustrious successors of the founder. In some of them are placed their respective statues.

In the chapel, called Serdan-Tsangkhang⁵ (golden pure hall) at the centre of the great temple called Yang-pachan, there are the images of Buddha, Maitreya, and Amitābha. In the *Gonkhang* the life size statues of Kushi Khan⁶ and his generals are placed in martial attitude. Besides these, stand several mythological warriors all in divers frightful attitudes. In the chapel called Dub-choi⁷ Tsang-khang the remarkable thing is the image of Çamvara the chief of the *Tantrik* deities, with the *Sakti* (female energy) in his clasp.

In the Lama-khang a statue of Tsong-khapa, his works in original, painted tapestries, a set of Kahgyur scriptures written in gold, etc., are among the remarkable articles. This was Tsong-khapa's study in his old age. There are also several *Chortens* and an image of Vajrā Bhairava, the fearful defender of Buddhism. In the Sarma-khang, erected by Lodoi Choikyong,⁸ there are the images of the Buddhas and Bodhisattvas made of gold, sandal-wood, medicinal minerals besides numerous *chortens*, tapestries, pictures, etc. In the De Çeg⁹ Lhakhang, i.e., the temple of the Tathāgata there are eight silver *chortens* consecrated to the eight Buddhas. The most prominent of the images of the temple called Chyam-khang is that of Maitreya, the future Buddha, which is said to have come flying from Magadha. Beside it, stand in row the images of several Bodhisattvas. In the Zim-khang¹⁰ the private

¹ ལྷུལ་བའི་ཚབ།

² འདུལ་འཛིན།

³ རྣམ་ལྷུལ།

⁴ དགོ་འདུན་ཕུན་ཚོགས་སྐབ་བཟང་བཟུན་འཛིན།

⁵ གསེར་ལྷན་གཙང་ཁང་།

⁶ ཀོ་ཤྱི་བཟུན་འཛིན་ཚོས་ལྷུལ།

⁷ ལྷུལ་ཚོས།

⁸ སྐོ་གྲོས་ཚོས་སྐྱོང་ས།

⁹ བདེ་གཤེགས།

¹⁰ གཟིམས་ཁང་།

residence of Tsong-khapa, which contains the chair of the great reformer, is to be seen the curious image of the hero Khanda Kapāla with a halo of variegated colours round his head. In the ascetical cell called *Hodsalphug*¹ (the cavern of light) where Tsong-khapa used to perform ascetical meditation the images of the terrific Vajrapāni and his retinue attract the attention of the pilgrims. In the interior of the hall of priestly assembly called *Dukhang-Karpo*,² the *Serthi*³ (the golden chair, i.e., the hierarchical throne) and the statue of Tsong-khapa impress the faithful pilgrim with awe and reverence. *Phola Jūng Wang* provided this temple with a gilt dome built after the Chinese style and deposited in it a set of 108 volumes of the *Kahgyur* scriptures written in gold. In the *Nai-choikhang*⁴ a tooth of the saintly reformer, called *Tsem-Hodzer-ma*⁵ (the lustrous tooth) and the image of the thousand armed Avalokiteśvara whose eleven heads look with eyes of mercy on all living beings of the world, are remarkable.

In the college of *Chyang-tse*, there is an elephant illustrative of one of Buddha's former births with a number of devout followers, all made of horn. There are also some representations of sainted fairies called *Khandoma*,⁶ and a set of *Tantrik* bone ornaments including strings of beads, earrings, chains, amulets, etc., all made of human bones. All these are said to have once been used by the Indian saint *Naropa*. *Naropa's* mitre-shaped crown and his *Tshe-būm* (pot of longevity) containing consecrated water which never dries, are looked upon by devout pilgrims as wonderful objects of veneration. In the *Gonkhang* of this college there are terrific representations of the Lord of Death and his frightful companions, messengers, and guards. In the *Parkhang* (printing house) are to be seen Tsong-khapa's voluminous works—all engraved on wooden blocks which are piled up in different rooms from which impressions can be had on *daphne* paper, at any time, at a small cost. In the temple of *Yangpa-chan*⁷ there are the scenes of Buddha's triumph over *Māra* (the evil one) and his legions. In the outer passage of circumambulation called *Chyi-kor*⁸ pilgrims are shewn many self-existent (*Rang-Jūng*)⁹ sacred letters, figures, and fountain heads, finger-marks and footprints on rocks, and outside of this passage there is a lofty seat consecrated to the mountain god of *Ma-chen Pomra*, who is said to have patronised Tsong-khapa in his arduous works. The successors of Tsong-khapa, who are appointed by

¹ འོང་གསལ་ལུག། ² འདུ་ཁང་དཀར་པོ། ³ གསེར་ཁྲི།

⁴ གསལ་ཚེས་སྐྱོང་ས། ⁵ ཚེས་འོད་ཟེར་ས།

⁶ མཁའ་འགྲོ་ས། ⁷ དབྱངས་བ་ཅན།

⁸ ལྷི་རྗེ། ⁹ རང་བྱུང་།

election from among the most learned and pious Lamas of ordinary birth, occupy the hierarchical throne called *Serthi*. They are, therefore, called *Gahdan Thi-pa*,¹ i.e., President or Chairman of *Gahdan*. Men of learning generally resort to *Gahdan*. Its monks, for the excellent education they get in the university, always rise to distinction in the public service both secular and religious. All sections and classes of men are represented at *Gahdan*.

The monastery of *Sangkhar* which contains 200 monks at *Dachan*,² north of *Lhasa*, was founded by *Tsong-khapa* under the auspices of a rich noble named *Rinchen Shun-pa* of *Tag-kar*. It is under the supervision of the *Gahdan Thi-pa*.

The Monastery of SERA.

སེ་ར་ཤེ་ཤེ་ཆེན་གླིང་།

The monastery of *Sera* (literally, wild rose) was founded by *Oham-chen-choije Çākya Yeçes*³ in 1418, the year of *Tsong-khapa's* death.

The Governor *Neh-pa* who patronised *Tsong-khapa* and his disciples, frequently used to invite them to *Sera-tse*,⁴ a retired hermitage on the top of the hill overhanging *Sera*. On these occasions *Choije* devotedly served the reformer, in consequence of which *Tsong-khapa* predicted a great future for a monastery which *Choije* would found in that neighbourhood. A saintly Lama while sitting in meditation, cast his eyes on a spot lower down the hermitage which was filled with wild rose plants in blossom. He predicted that some day there would be a monastery there. Emperor *Yunglo* of the *Taming* dynasty, had sent an invitation to *Tsong-khapa* to visit *Peking*; but the great reformer, finding *Choije's* time fully occupied with the more important work of religious reformation, sent *Çākya Yeçes* as his representative. *Yunglo* did honour to the *Yellow-cap Church* by showing every consideration to this disciple of the reformer on his arrival at *Peking* where *Choije's* first act was to bring about the recovery of the Emperor from a serious illness by the efficacy of his religious services. The temple of *Maitreya*, then recently built by the Emperor, was placed in his charge and he was given the name of *Chyam-chen Choije*. Under the Imperial auspices *Choije* founded the monastery of *Hwang-sze* (*Yellow-temple*) in one of the imperial gardens of *Peking* situated a few miles to its north. For diffusing the reformed creed of *Tsong-khapa* in *China* he had taken with him several of *Tsong-khapa's* works and a set of block-print *Kahgyur*

¹ བློ་པ།

² བདེ་ཆེན།

³ འཇམ་མེད་ཆེན་མོ་ལྷུ་གུ་ཡེ་ཤེས།

⁴ སེ་ར་ཆེ།

scriptures. After converting the Lamas of Peking to the reformed Yellow-cap Church he returned to Tibet. On the way he paid his reverence to Tsong-khapa making rich presents to him. Subsequently, he founded the monastery of Sera *Theg-chen-ling*, which now contains 5,500 monks and exercises much influence in the secular and religious administration of the country.

He established a university in it with four *Tva-tshang* or colleges. Of these *Gya-Tva-tshang* belonged to the upper division of Sera and the remaining three, *i.e.*, *Thoisam*, *Norpuiling*, *Chyipa Khamang Tva-tshang*, and *Nag-pa Tva-tshang* belonged to Sera *Msh*, (*smad*) *i.e.*, lower division of Sera. In the middle of the eighteenth Century two of the colleges were established. It still continues to be a favourite resort of learned men of Tibet and Mongolia. The monks of Sera belong to respectable families of Tibet proper, Amdo, Kham, Nyagrong, Mongolia and Western China.

There are in the Dukhang (grand hall of congregation) the images of—

1. Buddha vanquishing Māra the evil one and a host of demons.
2. The sixteen Sthavira (Neh-tan Chu-rûg¹) brought from China.
3. Several life-like images constructed by the famous artist Nehu Chang-wa.

In the Gonkhang (the temple assigned to the *Tuntrik* deities there are—

1. The image of the six-armed Bhairava, constructed by Leg-gyan of Shwau.
2. Gon-po Choigyäl with four arms.
3. The goddess Paldam Lhama (Kāli) on horseback, her legs being tied by a chain, probably as a punishment for her wicked conduct.

In the front wall there are painted representations of the invasion of Ü by the Tsang army and their defeat by the Tartars in 1643, the scenes of war, and the images of fearful spirits, such as Gon-po De-mar, the genius (Chyarog-dong-chan, he with a raven's head), etc. On the western wall are painted the likenesses of the successive high priests of Sera, etc.

In the western corner of the upper congregation hall (Dukhang Gong-ma), are the images of Amitābha Buddha, the eleven-headed Avalokiteçvara and the four-armed Gon-po, Maitreya made of silver, the Bodhisattva (Çākya) as a citizen, and the eight spiritual sons of Buddha and also the Kah-gyur and Tangyur collections, all written in gold and silver.

In the temple of Chyam-chen Shal-reh Lhakhang, the image of Atiça with a *Ohintamani* wishing-gem in his hand is conspicuous.

¹ བཀའ་བཞུགས་བཞུགས།

In the Go-chye-khang there are the images of Buddha and a silver *Chorten*. In the further niché of the Dukhang there is a golden image of the coming Buddha. In the front hall of the Dukhang there are the Dharma Pāla. The most remarkable object in the passage of circumambulation round the monastery is a small *Chaitya* (said to be one of the 84,000 *chaitya* constructed by Emperor Açoka) which was brought from Magadha. There is also a *Tantrik image* of Hayagrība with the goddess Vajra Varāhi in his clasp.

The Monastery of DAPŪNG.

དཔལ་ལྷན་འབྲས་སྤྱངས་ཕྱོགས་ཐོག་མཐོང་ཅན་ལས་རྣམ་པར་རྒྱལ་བ།

Dapūng the great monastery of lower Ū, now the premier monastery of Tibet, was founded by Jam-yang Choije¹ in the year *Fire-monkey*, i.e. 1415 A.D. with 5,000 monks. His father Gah-wa Nor-shon, on account of his wealth, was believed to have been an incarnation of Vaiçravaṇa the god of riches. Jam-yang was born at Sam-yé, and admitted into the sacred order at Tse-thang (Chethang). He received his first lessons in sacred literature from the abbots of Sangphu. At Gahdan, Tsongkhapa and his principal disciples ordained him with the final vows of the order of *Bhikṣu*. At Tashi Dokha, Tsong-khapa advised Jam-yang and his friend Namkha Zangpo, the Governor of Neḥu-Dsong, to found a monastery after the model of the ancient monastery of Çri-dhānya Kataka of Southern India. One night, while Jam-yang was asleep in the fort of Neḥu-Dsong he saw in a dream the god Nam-ña Karpo telling him that if he founded a monastery at Dar-bag thang, situated in front of the hill called Gephel Rivo-che, he could get 5,000 monks to reside and study in it. Accordingly, he visited Dar-bag and Rivo-che. There he saw several fountains and small lakes called "the lakes of fortune." On another occasion, while seated on the margin of a lake situated on the top of Lang-chen ri, Tsong-khapa mentioned to him that that was "the lake of learning." Another night he dreamt that several men were assembled on a river's edge in order to cross it. Jam-yang at once swam to the opposite bank and threw a bridge across to enable others to follow him. After several such curious dreams he determined to found the monastery of Dapūng. Tsong-khapa supplied him with the necessary plan after the model of Çri-dhānya Kataka, and his friend the Governor of Neḥu Dsong, furnished him with funds; and through the joint exertions of Jam-yang and his patron, Dapūng was founded. On account of the Governor's help the rich nobles of Tibet gave endowments of lands to it and sent their boys for religious education there.

¹ འཇམ་དབྱངས་ཚེས་ཇེ།

[N. S.]

Their example was followed by the merchants and other landholders, in consequence of which it soon became a favourite institution of the aristocracy of Tibet. Jam-yang established eight colleges for teaching the different branches of sacred and secular learning. In course of time the monastery became the principal seat of learning, and learned and wise men flocked to it from the different parts of the country. In discipline, moral culture and purity of life, the monks of Dapûng excelled the monks of all other similar institutions in Tibet. It soon claimed a university with seven colleges for the study of the different branches of sacred literature including metaphysics, logic, medicine, and one for that of profane literature for the benefit of the lay people. After Tsong-khapa's death, Jam-yang presided over the Monlam-chenpo of Lhasa and raised it to prominence. From this circumstance the power of Dapûng over the Monlam-chenpo became paramount and continues so to this day. The president of the Monlam-chenpo called the Dapûng Sha-ngo, exercises supreme authority in the spiritual affairs of the country during the months of January and February, when the Talai Lama himself submits to the resolutions passed by the congregated clergy on the occasion. The chair of Dapûng was filled by many able and distinguished sages, among whom PaIdan-senge, one of the disciples of Tsong-khapa, Jam-yang Gahlo, and Yontan Gyatsho of Tsang-thon, were the most learned. On the rise of Dapûng with its great university the glory of Gahdan was overshadowed. The fame of the Gahdan *Thipa* as the profoundest scholar of the Yellow-cap Church was surpassed by that of the high priest of Dapûng. Under the presidency of Gedun-Gyatsho who was called Dapûng Tûlpaiku (incarnate Lama of Dapûng), the monastery with its university claimed precedence even over Gahdan. Gedun-Gyatsho in whom the spirit of Gedûn-dûb had appeared was called Gyal-wa ñi-pa (2nd Gyalwa). He was, therefore, the first incarnate hierarch of the Yellowcap Church, from whose time the monastery enjoyed the proud name of Chyog nampar Gyal-wa—victorious in all the quarters, which expression is preserved to this day in the silver currency of Tibet.

Dapûng contained the following *Tva-tshang* or colleges:—

- | | |
|------------------|-------------------------|
| 1. Tashi-gomang. | 4. Ñag-pa Namgyal-ling. |
| 2. Lozang-ling. | 5. Ku chyog-ling. |
| 3. Thoism-ling. | 6. Choikhor-ling. |
| 7. De-yan. | |

Of these only four are now in existence. Thoism-ling, Ku-chyog-ling and Choikhor-ling were abolished during the presidencies of Sonam Gya-tsho and Lozang Gyatsho. There are at present 7,700 monks in the monastery, most of whom are recruited from noble families in Kham, Mongolia, Gyarong, Ñag-rong, Amdo, Ü and Tsang. In the Zimkhang, Jam-yang *Choije's* residence, situated behind the grand cloister, is the image of Jam-yang Sûng-chon (speaking Muñju Çri). In the central *Tsang-khang* (chapel) are the golden images of the Buddhas of the past, present and future

in sitting posture and surrounded by their respective eight disciples. In the temple of Na-chu-tug Lhakhang there are the sixteen *shavira* (sages) brought from China by the illustrious Phag-pa during the reign of the Emperor Khublai Khan. In the new chapel consecrated to Champa there are—the huge image of the coming Buddha, representing him as a youth of twelve, and a silver trident used by Jam-yang himself. In the Kalzang Lhakhang there are one thousand Buddhas, all made of copper gilt with gold. In the Kahgyur Lhakhang, *i.e.*, the library of sacred books, there are Kahgyur collections all written in gold. In the cloister of the *Ñag-pa Tva-tshang* (*Tantrik* College), there are many articles very sacred to the Buddhists. On the right of the image of Vajra Bhairava is the statue of Tsong-khapa and on its left is the image of the Lord of Death with his horrid train. The principal temple is three-storeyed. The principal hall of congregation called the Dukhang Chenpo on the ground floor contains 240 wooden pillars, distributed over an area of 34,560 sq. ft. to accommodate 7,700 monks when they assemble to perform religious service.

The third hierarch was Pañ-chen Sonam Tag-pa; the 4th, Sonam Gyatsho, the Dalai Lama; 5th, Yontan Gyatsho, Dalai Lama; 6th, Pañchen Lozang Choigyan of Tashilhunpo; 7th, Ñag-wang Lozang Gyatsho, the 5th Dalai Lama; 8th, Ñag-wang Yeçe Gyatsho (Pakardsin-pa); 9th, Kalyang Gyatsho (7th Dalai Lama) in the year 1726.

The Monastery of MERU was one of the four sanctuaries founded at the four cardinal points of Lhasa by King Ralpachan in the 9th Century A.D. It was abolished by King Langdarma, but was afterwards restored to its former condition and formed the metropolitan monastery.

CHAGPOIRI is a monastic institution with classes for the study of medicine. It is called the Man-pa *Tva-tshang* or the Medical College. It does not contain more than one hundred pupils.

Phabong-kha was anciently King Srong-tsan Gampo's favourite resort, where he used to propitiate his tutelary deities. The seven early monk-scholars called Sedmi-midün also had their residence there. During the persecution of Buddhism by King Langdarma there existed no monastic establishment at Phabongkha. Geçes Tag-kar-pa revived the institution. During the hierarchy of Sakya, Dogon Phagpa repaired the monastery and gave rich endowments for its maintenance, but during the dispute between Sakya and Phagmodü it again dwindled into insignificance till it was repaired by Thegchan Choigyal and revived by Je-Deleg-Ñima. But again, when internal discords convulsed Tibet, it declined and remained in a neglected condition till the year *Earth-sheep* of the tenth cycle when Minister Paljor Lhündub of the family of Khon rescued it from ruin. Since then it has been flourishing.

Sangphu Nehu thang, situated on a hill beyond Ñethang, was founded by Dög Leg-çe in the same year when Sakya was established.

13. *Notes on an Indian Worm of the Genus Chætogaster*—By NELSON ANNANDALE, B.A., D.Sc., Deputy Superintendent of the Indian Museum. (With one plate.)

The fresh-water worms of the genus *Chætogaster* are held by some authorities to constitute a separate family; but Beddard,¹ whom I have followed in drawing up my account of *Ch. bengalensis*, regards them as belonging to the Naidomorpha, a rather obscure group of Oligochætes which appears to be well represented in the Calcutta tanks. Hitherto the genus, well known in Europe and recorded from America, does not appear to have been reported from within the limits of Asia. The Calcutta species is not uncommon and I have taken specimens of what may be a second in the Botanical Gardens at Sibpur. This merely proves, as I have already pointed out to the Society, that a vast field lies open to any naturalist who would devote himself to the study of Indian pond life. I am much indebted to my friends Mr. F. F. Laidlaw, of Owen's College, Manchester, and Dr. J. H. Ashworth, of the University of Edinburgh, both for the generic identification of the worm in the first instance and for references to literature later. My thanks are also due to Major A. Alcock for his unfailing sympathy and assistance in the work undertaken.

DESCRIPTION of *Chætogaster bengalensis*, sp. nov.

Prostomium forming a large, sub-circular sucker: another smaller sucker at the posterior extremity of the body. Œsophagus longer than pharynx, with two well-marked dilatations, the posterior of which shows indications of a second constriction in its posterior third when empty. The anterior dilatation is covered with large, flat, polygonal cells of a faint yellowish colour. There is a sense-organ (otocyst?) in the brain: the remainder of the nervous system normal for the genus, the somewhat discrete nature of the ventral ganglia, their number in the first few segments and the separation of the two ventral nerve chords in the same region being characteristic. The first pair of nephridia is larger than the others posterior to it. Setæ arranged on each side of the ventral surface in bundles of from 15 to 17. Body colourless and almost transparent. Length varying greatly with state of contraction, at least 10 mm. when the body is fully expanded. There is a very distinct flattened area on the ventral surface between the two bundles of setæ. Outward appearance somewhat resembling that of an *Æolosoma*.

Possibly this worm should be regarded as the type of a new genus; but it seems more convenient to regard it for the present as a *Chætogaster*.

¹ A *Monograph of the Order Oligochæta*, p. 304. Oxford, 1895.

BIONOMICS OF *Chaetogaster bengalensis*.

The *Chaetogaster* of the Calcutta tanks is usually found clinging by means of a posterior sucker to the external surface of the body or the edge of the shell of a water-snail. When disturbed it withdraws itself entirely within the latter. It does not confine itself to any one species of snail, but generally chooses a *Limnæus*, *Limnophysa* or some similar species, apparently because these genera are common in its habitat, do not possess an operculum and have a wide aperture to their shells. In one instance I saw, in an aquarium in which snails were somewhat scanty, a solitary worm attempting to establish itself on a *Planorbis*; but the connection was only temporary, not lasting for more than a few minutes. The mouth of the shell in this genus, though there is no operculum, is evidently too constricted to be suitable for the worm, which is generally gregarious. As shown by the figure (plate III, fig. 1), a considerable number of individuals may establish themselves on a single snail. Occasionally *Ch. bengalensis* quits its host altogether and either wanders away in search of another or drops to the bottom. This happens whenever the water becomes foul or reaches too high a temperature (in an aquarium when the sun, falling directly on the surface, heats the water), or when too many individuals are settled on a single host after rapid asexual multiplication. Before fixing themselves on a fresh snail they frequently crawl over the external surface of the shell.

Progression is mainly effected by a series of contractions and elongations of the body, aided by the two suckers. The posterior of these having been fixed to any surface, the body is stretched forward to its greatest extent. The anterior sucker is then applied, the posterior one set free, and the body contracted. As a rule, the ventral surface is not lifted, but something analogous to the "looping" of a leech or a Geometrid caterpillar, but not so marked, takes place very occasionally. When sinking through the water, as it does when its hold is released, the worm can change its direction slightly by moving the posterior part of the body from side to side; it cannot swim or raise itself upwards without support. The setæ appear to play a very small part in ordinary progression, except as aids in adhesion. Each bundle is capable of an independent rotatory motion somewhat resembling a rapid turn of the wrist. This movement is very useful when the worm is insinuating itself into a crevice, as it thrusts the body forward rapidly. All the setæ are frequently moved at once, although each bundle can be turned separately. The anterior bundles have a different function, as we shall see.

Although this species¹ lives in close connection with water-snails, it is not, strictly speaking, parasitic upon them; for it captures

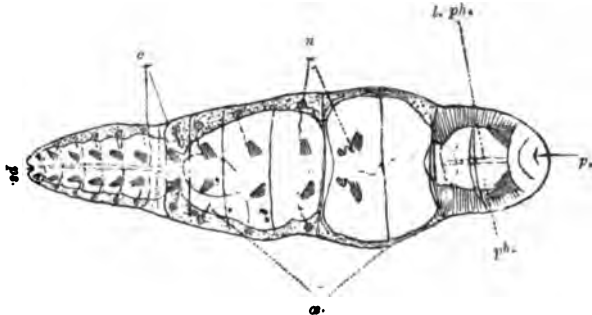
¹ The European species also live on water-snails, but some of them at any rate are said to be internal parasites. Dr. J. H. Ashworth has sent me a specimen of an English species in which the food probably consists of diatoms and the like.

[N. S.]

living prey and only uses its host, so to speak, as a beast of burden and a stalking horse. Carried along clinging to it by the posterior sucker, the body is extended outwards as far as possible and waived rapidly in all directions, the "head" being invariably free of the snail's shell. As soon as it comes in contact with the body of a small crustacean, the anterior sucker takes a firm hold. Its ventral surface is covered with small prominences, which are not granular but mere projections of the epidermis. These probably give an additional grip, the limbs of the struggling prey becoming entangled amongst them. The anterior setæ do not project free from the ventral surface as in the posterior bundles, but are contained in a pocket or introvert in such a way that they lie below the mouth inside a lower lip or lobe which forms the wall of the posterior part of the prostomial sucker. As long as the body is elongated they are placed almost parallel to one another in a vertical line, leaving the aperture free; but as soon as the body is contracted, a rapid twist of their bases takes place and they spread out in a fan-like formation, so that the tips of the inner setæ of each bundle are practically in contact with those of the other side. (There is no difference in structure or arrangement between these setæ and those posterior to them, but the latter are considerably shorter). By the movement described the prey is seized by the setæ and conveyed into the mouth, which opens directly into a large pharynx with greatly thickened walls, a small lumen, and numerous muscle-bands radiating from it to the body-wall. A function of this organ seems to be to crush the prey to death; but a similar pharynx is found in species in which the food probably does not need crushing. A narrow slightly coiled passage leads into the first dilatation of the œsophagus. The cells on the surface of the latter probably have some digestive function ("liver cells") and the interior of the crustacea swallowed become disintegrated very largely in this chamber. Even at the moment of the passage of food into the second dilatation, the constriction between the two remains distinct. The feeble constriction in the posterior dilatation is a mere fold of the walls of the structure, allowing a certain enlargement to take place. The intestine which leads from the œsophagus to the anus is rather broad: this is rendered necessary by the bulky nature of the indigestible parts of the food, for the shells of small Copepods and Ostracods pass through the body of the worm practically unaltered, even the appendages remaining attached to the trunk in many cases.

Regarding sexual reproduction I have practically no information. During the period between December and April, throughout which I have had living specimens under observation, it does not take place and the sexual organs are imperfectly developed. Reproduction by fission is, however, active at this season. I find it a little difficult to say what is the normal number of segments present in the species, but it appears to be twenty or twenty-one. More than this number are, however, produced by budding from the penultimate segment, and at first it is impossible to distinguish

between them and the original ones. When several have been produced, the most anterior can be distinguished from the others by a dilatation of the alimentary canal which ultimately becomes the pharynx of a new individual. The prostomium never takes its place as a regular segment in the series, but grows out as a lobe on the dorsal surface. The mouth of the young worm is in



continuity with what will be the new anus of the parent and the shells of the food pass to the exterior of the old anus, at the extremity of the young individual, until the separation has been completely effected. This does not occur until at least 16 new segments (in addition to the old extremity) have been formed. The clitellum (10th and 11th segments) is already conspicuous, being devoid of setæ. In adult individuals, however, the glandular structure of its integument extends partially over another segment on either side.

— o —

EXPLANATION OF PLATE III.

- Fig. 1. *Chætogaster bengalensis* on a Water-Snail, X 2.
 „ 2. Anterior extremity of an adult individual from below, showing nerve cords, etc. (*Much enlarged*).
p.—prostomium, *l.*—lower lip, *s.*—anterior setæ, *n.*—nerve chords, *g.*—ganglia.
 „ 3. Diagram showing arrangement of the setæ in a similar bundle from the right side. Each dot represents a seta in cross-section.
 „ 4. A bundle of setæ from the left side of one of the posterior segments, seen from behind. (*Much enlarged*).

(Text figure.)

- Fig. 1. Young *Chætogaster bengalensis* just separated by fission from its parent. (*Somewhat diagrammatic as regards the nephridia*).
p.—prostomium, *ph.*—pharynx, *l.ph.*—lumen of pharynx, *c.*—oesophagus, *c.*—clitellum, *n.*—nephridia, *p.s.*—posterior sucker.

14. NUMISMATIC SUPPLEMENT V.

(With Plates IV & V.)

NOTE.—The numeration of these articles is continued from p. 116 of the Journal for 1904. (Extra number.)

III.

SULTANS OF DEHLI.

31. *Muḥammad bin Tughlaq*, Pl. IV. 1.

A new variety of Muḥammad bin Tughlaq's lighter gold coins has recently been obtained at Agra by Mr. G. Bleazby who has sent it to me for publication. An almost similar coin of the same mint was described by me in the Journal of the Royal Asiatic Society 1900, p. 775. The date of the present coin, however, is different, and Daulatābād is given the title of *حضرة* instead of *دارالملک*. The coin is in very fine condition. In my paper above mentioned I suggested that the words in front of the mint name were *قبة بن اسلام* and not *قبة دين اسلام* as read by Mr. Thomas or *قبة الا سلام* as preferred by Mr. Gibbs. I have, however, since had reason to modify this opinion, as I find that on the gold coins of Firoz Shāh Zafar and Fateḥ Khān the form of the two first letters of the words *الاسلام* is identical with that of the same letters in *الا سلام* on the margin of this coin. I have therefore adopted Mr. Gibb's reading.

A

Weight, 143 grains.

Size, .7.

Mint, Hazrat Daulatābād.

Date, 730 A.H.

Obverse.

Kalima in circle.

Margin.

مذا السكة في قبة الا سلام اعني
حضرة دولت اباد ۷۳۰

Reverse.

ضرب في زمن
العبد الراجي رحمة
الله محمد بن تغلق

H. N. WRIGHT.

IV.

MUGHAL EMPERORS.

32. *Jalāl-ud-din Akbar*.

(i) *Metal*, Gold. Pl. IV. 2.

Weight, 168 grains.

Mint, Hājīpūr.

Date, 983 A.H.

This unique mohur was acquired from a Hindu priest shortly after the last Magh Mela at Allahābād, to which it is said to have been brought by a pilgrim from Bengal. No coins from the Hājipūr Mint were previously known. The place is situated in the Muzaffarpūr District, Bengal, and lies on the east bank of the Little Gundak, a short distance above its confluence with the Ganges opposite Patna. Hājipūr figures conspicuously in the history of the struggles between Akbar and his rebellious Afghān governors of Bengal, having been twice besieged and captured by the Imperial troops in 1572 and again in 1574 A. D. This mohur was struck in 1575, when apparently order was again restored. It is in fine condition and of the type of the mohur illustrated as Figure 65, Plate III. of the British Museum catalogue of Coins of the Mughal Emperors.

(ii) *Metal*, Gold. Pl. IV. 3.

Weight, 167 grains.

Mint, Jaunpūr.

Date, 988 A.H.

This is, I believe, the only *square* mohur of Akbar known from the Jaunpūr Mint. His square rupees from the same mint are extremely rare. The date on this mohur appears in the right-hand lower corner of the obverse—a comparatively rare occurrence.

(iii) *Metal*, Silver. Pl. IV. 4.

Weight, (looped.)

Mint, Jaunpūr-Chaitaur.

Date, 976 A.H.

This strange combination of names has long been a puzzle to me, which I have not yet succeeded in solving. There seems no doubt about the reading, and the coin is certainly genuine. It is of the usual type of Akbar's broad rupees from the Jaunpūr Mint (No. 96, Plate IV of the B.M. Catalogue), but with this difference that, while the name Jaunpūr appears in the usual place in the lower margin of the reverse, the word Chaitaur occurs in the upper margin on the same side of the coin. Hitherto only copper coins of Akbar were known from the Chaitaur Mint and none with two mint names. Silver coins of Sher Shāh are known from the Jahānpanāh-Ujjain Mint. This coin was acquired in Lāhore some years ago.

(iv) *Metal*, Silver. Pl. IV. 5.

Weight, 44 grains.

Mint, Lāhore.

Date, 987 A.H.

The inscription on one side of this coin reads *الله أكبر* "Akbar is God" and not the usual *الله أكبر* "God is great." A four-anna piece with a similar legend was published by Dr. L. White King and Captain Vost in 1896 in the paper already referred to, but although it bore the same year, it was from the Ahmadābād Mint.

It has been stated by some writers, among them the late Mr. C. J. Rodgers, that in the thirtieth year of his reign, when Akbar founded a new religion, he changed the legends on his coins, his object apparently being that he should be looked upon and worshipped as God; and coins of the kind described above have been quoted as strengthening the assertion regarding the object he had in view. But, so far at least as these pieces are concerned, is it not more reasonable to suppose that the transposition of the words was due to a mistake in the dies which was almost immediately rectified, for if Akbar really intended to assume divine honours and to proclaim himself as God, surely these coins instead of being of the greatest degree of rarity, would be abundant even now, and the inscription would also have been found on coins of the higher denominations instead of being confined to four-anna bits?

- (v) *Metal*, Silver. Pl. IV. 6.
Weight, 177 grains.
Mint, Lahore.
Date, 997 A.H.

The rupee is apparently unique, or at any rate extremely rare, by reason of the mint name appearing in the upper margin of the reverse. On this side, the name and titles of the king are given in a square with loops at the four corners. The Kalima, with the usual accompaniment, appears on the obverse in a quadrilateral area with three curves in each side.

- (vi) *Metal*, Silver.
Weight, 176 grains.
Mint, Urdū Zafar Qarin.
Date, Alif = 1000 A.H.

This rupee, which is precisely similar to the mohur portrayed as Figure 79, Plate III, of the B.M. Catalogue, is probably unique. It is the only round rupee of Akbar discovered so far from the camp mint and of the year (1000) *alif*. It was acquired in Amritsar some years ago.

- (vii) *Metal*, Silver.
Weight, 175 grains.
Mint, Ahmadnagar.
Date, 4-Ilāhī.

This rare coin is of rude fabric, and, in this respect, much resembles the rupees of Akbar from the Bairāt Mint. The legend on the reverse is—

صلا شهر پور الہ
۴ احمد نکر
ضرب

The obverse has the inscription usual on Ilāhī rupees.

Geo. B. BLEAZBY.

33. *A Zodiacal Half-rupee.* Pl. V. 1.

A few days ago I came across in the Aḥmadābād bazar a zodiacal Leo half-rupee [Legend, normal: Date, Hijri year wanting, regnal year 13; Mint, Aḥmadābād]. If this be, as it seems to me to be, a genuine specimen, it furnishes evidence, hitherto wanting, of the existence of zodiacal coins of that denomination. Imitation half-rupees, indeed, bearing representations of the signs of the Zodiac, are well known (See Br. Mus. Catal. Nos. 386-401), and these themselves, *quā* imitations, may fairly be taken as proof more or less substantial of the currency of the original coins they counterfeit. Had there been no genuine half-rupees, it is hard to see why the so-called "imitations" should ever have been fabricated.

Beside the recently-discovered half-rupee, three full rupees of Leo type lie before me on the table at which I am now writing. Two of the three were evidently struck from one and the same die, but the third not less evidently from a die slightly different. On the two, for instance, the word زبور is written ربور with no superscribed dot over the "ze" (Pl. V. 2), but on the third as زبور with no subscribed dots under the "ye" (Pl. V. 3). Also on the duplicates after the word شاه of Jahāngir Shāh comes a small curved flourish distinctly to the left of the "hā"; but on the third we have a longer sprawl, not to the left at all, but directly above the "hā." The two are evidently identical with the coin No. 385 figured on Plate XI of the Br. Mus. Catal., and there styled an "imitation rupee." If these be imitations, then the third (of the زبور type) is certainly genuine, and it is with this third specimen that the half-rupee agrees in every particular.

But, indeed, on what ground the Br. Mus. rupee No. 385 is adjudged to be an imitation I fail to apprehend. A complete statement of the differentiae that serve to discriminate between a genuine Zodiacal muhr or rupee and the beautifully-executed "imitations," a statement more detailed, and thus more practically helpful, than the paragraph on pp. LXXXII, f. of the Br. Mus. Catal., would, I feel sure, be very acceptable to the collectors of the coins of this fascinating series.

GEO. P. TAYLOR.

Aḥmadābād.

Note.—I take the opportunity to figure yet a third variety in which the word زبور is written without any dots (Pl. V. 4.) All three types appear to be equally genuine. I note also that on the two specimens of the "Cancer" rupee in my cabinet, the reverse legend of which is similar to that on the "Leo" rupee above mentioned, the word زبور also appears without dots.

H. N. WRIGHT.

34. *Some rare Mughal Coins.*

In the hope that the following coins from my collection may be of some interest to numismatists, I beg to offer some short descriptive remarks regarding them:—

(i) *Akbar.* Pl. V. 5.

Æ.
Weight, 306 grains.
Size, .85."
Mint, Sironj.

Obverse. In double circle with dots between.

سوزج
فلوس
ضرب

Reverse.

۱۳۸ لہ
ماہ مہر

Date, Ilahi 38.
Month, Mihr (7th Persian month).

This is a new Mughal Mint. The coin was obtained in Bombay two years ago.

(ii) *Jahāngir and Nūr Jahān.* Pl. V. 6.

AR.
Weight, 176 grains.
Size, .85."
Date, 1035-21
Mint, Lāhore

Obverse.

ز نام
شاه
جهانگیر [جو]
۲۱ سکہ د

Reverse.

نور
فروزده
نور جهان زد
بیگم
لاهور ۳۵ [۱۰]

The legends on both obverse, and reverse of this rupee read downwards—omitting the regnal year 21 and Hijri year (10)35,—form the following couplet:—

Zi Nām-i-Shāh Jahāngir tā buwad sikka-i-bar nur.
Fazūdah Nūr Jahān Begum ru-i-Lāhor.

(May the coin by the name of King Jahāngir, remain with light ;
And may the face of Lāhore be made by Nūr Jahān Begam
bright).

i.e., may this coin which is struck at Lāhore remain for ever
shining with lustre, both from King Jahāngir, and his
(Queen Consort) Begam Nūr Jahān.

This rare rupee was obtained by me at Aḥmadābād on my
short visit to that city on 29th of January last. Rupees of
Jahāngir and Nūr Jahān from the Lāhore mint with legends forming
a couplet are known. This is a new couplet altogether* :—

(iii) *Aurangzeb*. Pl. V. 7.

Æ.
Weight, 103 grains.
Size, .7"
Mint Burhānpūr.

Obverse.

زیب
اورنگ [م]
فلوس [شا]

Reverse.

برهانپور
سنه ۹

A new mint of of Aurangzeb in copper, I got it at Burhān-
pūr some two years ago.

(iv) *A'lamgir II*. Pl. V. 8.

Æ.
Weight, 105 grains.
Size, .65."
Date, 1171—4 ♀
Mint, Machhlipatan.

Obverse.

مبارک
جلوس ۱۱۷۱

Reverse.

ضرب
مچھلی پتن

This is a new mint of A'lamgir II. in copper. The name of the
Emperor is not engraved on the coin, but the year helps us in
assigning it to him.

FRAMJI J. THANAWALA.

Bombay.

*Note.—The reading of the interesting coin of Jahāngir
suggested by Mr. Thānawālā, appears capable of improvement.

Owing to the coin being somewhat worn, it is difficult to say with certainty what the couplet is. The following is given as an alternative suggestion.

Obverse. ز نام شاه جهانگیر تا شده پر نور
Reverse. فزوده نور جهان رو سے مکہ لاہور

The words on the reverse read by Mr. Thānawālā as بیگم and زد are, I think, unmistakeably مکہ and رو. Similarly, I do not think that the penultimate line of the obverse can be read as د مکہ. The second letter is much more like a د than a ک, and it is followed by what is clearly a ۛ. The rhythm of Mr. Thānawālā's couplet also appears to be defective. Dr. Taylor of Ahmadābād, who has also seen the coin, has suggested that the last three words on the obverse read ابد بر نور. He would make the ۛ at the end of the penultimate line the last letter of the word شاه in the second line. It is true the ۛ of شاه is not visible elsewhere on the coin but the coin is very much worn to the left of شاه where one would expect to find the letter ۛ. Also there is no "alif" on the coin, and as far as I can see no room for any.

H. N. WRIGHT.

35. *Dāwar Bakhsh*. Pl. IV. 7.

The coins of this grandson of Jahāngir who occupied the throne of Delhi for three months as a stop-gap for Shāhjahān are so scarce that it is worth while chronicling any finds. A rupee of Lāhore mintage has been described and figured in the Catalogue of the British Museum (Moghul Emperors, No. 527). A second was contained in the collection of the late Pandit Ratan Narāin of Delhi, and the coin described below, which was obtained by me at Meerut in March last, is, I believe, the only other known. All three are identical in legend. No gold coins of *Dāwar Bakhsh* have apparently come to light yet, but doubtless some were struck.

R
Weight 172 grains.
Size, .85.
Mint, Lāhore.
Date, 1037 A.H. Ahd.

<i>Obverse.</i>	<i>Reverse.</i>
الله	بادشاه
لا اله الا	بخش
ۛ ————— ۛ	داور
رسول الله	المظفر
ضرب	ابو سنه احد
لاهور	

The coin, but for three shroff marks on one side and four on the other, is in very good condition.

H. N. WRIGHT.

36. *Two rare coins of Shāhjahān and Aurangzeb.*

Among 246 silver coins recently acquired as treasure-trove in the district of Bhandāra C.P., and sent to me for examination, two are of sufficient rarity to warrant special notice. One is a coin of Shāhjahān of Katak mint but of a new type; the second of Aurangzeb, struck at the Town of Allahābād. This latter is, I believe, one of two known, the other having been presented to me some years ago by my friend Dr. G. P. Taylor of Ahmadābād. It has not, however, been previously described.

(i) *Shāhjahān.* Pl. IV. 8.

R

Weight, 173 grains.

Size, '9.

Mint, Katak (Cuttaek).

Date, 3rd regnal year. Month Abān.

Obverse.

لا اله الا الله
 محمد —————
 رسول الله
 ابا نعام اليه
 ضرب كاتك

Reverse.

غاز
 جهان بادشاه
 محمد صاحبقران ناز
 شهاب الدين

(ii) *Aurangzeb.* Pl. IV. 9.

R

Weight, 174 grains.

Size, '9.

Mint, Town of Allahābād.

Date, 1072. A.H. 4th regnal year.

Obverse.

Usual couplet but
 بخر *vice* مهر
 date to left of
 lower line.

Reverse.

بلدة الله آباد
 ضرب
 جلوس ميمنت مانوس
 سنه ۴

H. N. WRIGHT.

37. Note on *Kām Bakhsh* and *Bahādur Shāh*.

I notice on p. 241 of the Journal, Vol. LXXII, Part I, for 1904, a statement by Mr. H. N. Wright that "*Kām Bakhsh* was made Governor of the *Ṣūbahs* of *Bijāpur* and *Ḥaidarābād* by his brother, *Shāh 'Ālam Bahādur*" [should be *S. 'Ā., Bahādur Shāh*]. I do not think that such an error,¹ coming from a leading numismatist, should be allowed to pass without a protest. The mere fact that *Kām Bakhsh* issued coin in his own name suffices to show that he claimed sovereignty.

Kām Bakhsh never held his authority from *Bahādur Shāh*; he was either an independent sovereign, as his father intended, or a rival who had usurped part of *Bahādur Shāh's* kingdom. By his alleged will '*Ālamgir* attempted to make a partition of the country between his three surviving sons; and it was in pursuance of this design, no doubt, that on the 14th *Zūl Qa'dah* 1118 H. (17th February, 1707 N.S.), he nominated *Kām Bakhsh* to be Governor of *Bijāpur* and *Ḥaidarābād*. *Kām Bakhsh* started from the court at *Aḥmadnagar* at once to take up his appointment. '*Ālamgir* died on the 2nd March, 1707 (N.S.)

The exact words used in the will, as translated by James Frazer "*Nadir Shāh*," p. 36, are: "Whoever of my fortunate children shall chance to rule the empire, let him not molest Mahommed "*Kām Bakhsh*, should he rest content with the Two New *Ṣūbahs*." The text from which James Frazer translated was, apparently, that now in the Bodleian Library, see Sachau and Ethé's "*Catalogue of Persian MSS.*" No. 1923 (Frazer MSS. No. 118) fol. 13a.

After doubting for a long time, I have at last come to look on this will as authentic. *Khāfi Khan*, II, 549, says it was made over to *Ḥamid-ud-din Khān*, a confidential servant in the Emperor's entourage; *Kāmwar Khan* states that '*Ālamgir* kept it, after signature, under his pillow. Immediately after '*Ālamgir's* death, its provisions were appealed to by *Bahādur Shāh* when writing early in June, 1707 to his brother *A'zam Shāh*, then advancing on *Agrah* to contest the succession; and a copy had reached *Sūrat* as early as the 18th October, 1707, as may be seen from F. Valentyn, *Oude en Nieuw ost Indie*," IV, 274. The probabilities are in favour of the document having been executed;

¹ The statement quoted above was based on the following extract from the *Muntakhabu-l-lubāb* (Text Vol. II. p. 605) as translated by Professor Dowson (Elliot's History of India, Vol. VII, p. 405).

"A kind and admonitory letter was addressed by the Emperor (*Shāh 'Ālam I*) to his brother Prince *Muḥammad Kām Bakhsh* to the following effect: 'Our father entrusted you with the government of the *Ṣūba* of *Bijāpur*; we now relinquish to you the government of the two *ṣūbas* of *Bijāpur* and *Ḥaidarābād*, with all their subjects and belongings, upon the condition, according to the old rule of the *Dakhin*, that the coins shall be struck and the *Ḥuṣṣa* read in our name. The tribute which has hitherto been paid by the Governors of these two provinces we remit.'

and in any case, the dates show that Kām Bakḥsh was appointed to, and started to take possession of, Bijāpur before his father's death.

WILLIAM IRVINE.

38. *Aḥmad Shāh Bahādur. A new Mughal mint. Mujāhidābād.*

This coin was obtained by me in Cawnpore two years ago. I have been unable to identify the locality of Mujāhidābād. Aḥmad Shāh at his accession took the title of Mujāhid-ud-dīn (Elliot, VIII., p. 112.).

The mint is entered in Mr. Burn's list of Mughal Mints (J.A.S.B., Pt. I., No. 2, of 1904) but the coin has been nowhere described.

N. Pl. IV. 10.

Weight, 165 grains.

Size, '85.

Mint, Mujāhidābād.

Date, 1163, A.H. 3rd regnal year.

Obverse.

Within dotted circle.

احمد شاه بهادر
 ك بادشاہ غلز
 سکہ مبار

Reverse.

Within dotted circle.

مانوس
 میمذت
 سنه ۳ جلوس
 ضرب
 مجاهد آباد

H. N. WRIGHT.

39. *A find of coins at Manbhūm.*

A large and interesting find, containing 540 coins, from Shāh-jahān I to Shāh Alam II was recently made at Ghorati in the Manbhūm district. The find was especially rich in the Bengal and Benāres mintages of the later Mughals, Muḥammad Shāh, Aḥmad Shāh, 'Alamgir II and Shāh 'Alam II as the following figures will shew :—

	Muḥammad Shāh	Aḥmad Shah	'Alamgir	Shāh 'Alam II.
Azīmābād ...	39	10	31	5 = 85
Jahāngīrnagar	1	...	7	5 = 13
Katak ...	1	...	...	= 1
Muḥammadābād	} 26	33	123	31 = 213
Benāres				
Murshidābād	17	20	31	1 = 69
Mūngir ...	...	...	...	2 = 2

Of the Muḥammadābād Benāres Mint there were coins of the 16th regnal year, and of each regnal year from the 18th to the 30th of Muḥammad Shāh, a complete series of the coins of Aḥmad Shāh and 'Ālamgir II, and coins of the first five years of Shāh 'Ālam II. The latter coins and those of 'Ālamgir II shew a great variety of types and mint marks. The find also contained a complete series of the rupees of Azāmābād for the reigns of Aḥmad Shāh and 'Ālamgir II, except in respect of the 4th year of the former sovereign; and it appears from them that the mint-mark identified with the Azīmābād Mint in later times was first placed on the coins in 1163 A.H.—the 3rd year of Aḥmad Shāh. Rupees of Katak of Muḥammad Shāh, of Jahāngirnagar of Muḥammad Shāh, and 'Ālamgir II, and of Mūngir of Shāh 'Ālam II have not, as far as I know, been previously found.

The find further contained a rupee of 'Ālamgir II of Calcutta mintage, a rupee of Shāh 'Ālam II of Allahābād, with a date which, it seems to me, must be read as 1172 A.H., *i.e.*, two years before he ascended the throne of Delhi; and a rupee of Shāh Jahān III of Azīmābād, dated 1174 A.H.

The Mūngir rupee of Shāh 'Ālam II calls for special notice. In Dr. White King and Captain Vost's paper "Some Novelties in Moghul Coins," published in the *Numismatic Chronicle*, Vol. XVI, a dām of Akbar was described and figured, on which the mint name Mānghir مانگير was read, though no 'ye' is visible in the illustration of the coin. This place was identified with Monghyr in Bengal. The latter, however, is always in Persian characters spelt مونگیر, and this is the spelling found on the coin of Shāh 'Ālam II in the Manbhūm find. It seems certain, therefore, that the mint town of the copper coin of Akbar above mentioned cannot have been Monghyr in Bengal. It is more probable that it was "Mānghar," a fort built by Islām Shāh Sūri, 76 miles north of Amritsar (see Thomas's *Chronicles*, page 414). This would account for the Sūri type of the reverse.

The Allahābād rupee of Shāh 'Ālam II, dated 1172 A.H., is puzzling. It is, I understand, not the first found, but I have myself seen no other. In Elliot and Dawson's *History of India*, Vol. VIII, page 172, it is stated that in the 5th year of 'Ālamgir's reign, which would correspond to 1172-73 A.H., Shāh 'Ālam left Delhi after fighting a battle with Ghāzi-ud-din Khān and proceeded eastward. He was joined by the Governor of Allahābād, and proceeded to invade Bengal, with a view to "establishing his claim to the viceroyalty of the eastern Sūbahs" (Br. Mus. Cat., page 12). After his defeat at Buxar and the signing of the Treaty of Allahābād in 1765 A.D. (1178-79 A.H.) the latter place became the headquarters of Shāh 'Ālam for some years.

(i) *Muḥammad Shāh*. Pl. IV. 11.

R.

Weight, 179 grains.

Size, '9.

Mint, Katak.

Date, 1154—24th regnal year.

Obverse. ۱۱۵۴ محمد شاه بادشاه فازی سکه مبارک

Reverse. سنه ۲۴ جلوس میمنت مانوس ضرب کتک

(ii) 'Ālamgir *Shāh* II. Pl. IV. 12.

R.

Weight, 179 grains.

Size '9

Mint, Jahāngirnagar.

Date 117—6th regnal year.

Obverse. ۱۱۷ عالمگیر بادشاه فازی سکه مبارک

Reverse. سنه ۶ جلوس میمنت مانوس ضرب جهانگیر نگر

(iii) 'Ālamgir *Shāh* II. Pl. IV. 13.

R.

Weight, 179 grains.

Size, 1".

Mint, Calcutta.

Date, 1172—5th regnal year.

Obverse. ۱۱۷۲ عالم گهر بادشاه فازی سکه مبارک

Reverse. سنه ۵ جلوس میمنت مانوس ضرب کلکنه

Mint mark:

On obverse—"Sun,"

On reverse—"Cinquefoil" (traces of).

(iv) *Shāhjahān* III. Pl. IV. 14.

R.

Weight, 179 grains.

Size, '9.

Mint, Azimābād.

Date, 1174—Ahd.

Obverse. ۱۱۷۴ شاه جهان بادشاه فازی سکه مبارک

Reverse. ضرب عظیم اباد سنه اهد جلوس میمنت مانوس

(v) *Shāh* 'Ālam II. Pl. IV. 15.

R.

Weight, 180 grains.

Size, '95.

Mint, Mūngir (Monghyr).

Date, 1176—4th regnal year.

Obv.	Rev.
حصی دین محمد سائے فضل الہ	مانوی
سکہ زد برہمت کشورشاہ عالم بادشاہ	* مینت
۱۱۷۶	سنہ ۴ جلوس
	فرب
	ونگیر

(vi) *Shāh 'Ālam II.* Pl. IV. 16.

R.
Weight, 179 grains.
Size, 9.
Mint, Allahābād.
Date, 1172 (?)—Ahd.
Obverse. ۱۱۷۲ سکہ مبارک شہ عالم بادشاہ عازی
Reverse. سنہ احد جلوس مینت مانوی فرب الہ آباد

H. N. WRIGHT.

40. *Two double rupees of Sūrat Mint.*

Mr. R. F. Malabār-wālā, of Bombay, has sent me for publication a double rupee of the Sūrat Mint struck in the name of Alam-gir II. The Hijra date is unfortunately wanting, but the regnal year on the reverse fixes it as 1176 or 1177. Below is a description of the coin. As far as I know, the only other double rupee known is the one in the cabinet of Dr. G. P. Taylor of Ahmadābād, which he has kindly permitted me to describe in this note.

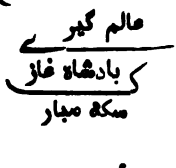
Rupees of the type of the Sūrat rupee of the Moghul Emperors were coined by the Bombay Mint. Mr. Thurston in his *History of the East India Company's Coinage* says (page 43): "The Nawāb's rupees, however, were soon found to contain 10, 12 or even 15 per cent. of alloy, in consequence of which the Bombay rupees were melted down and recoinced at Sūrat. The coinage of silver in the Bombay Mint was suspended for twenty years, and the Sūratis alone were seen in circulation. At length in 1800 (1214 A.H.) the Company ordered the then Sūrat rupee to be struck at Bombay." As both the present rupees were issued before 1780 A.D. (1194 A.H.) it cannot be definitely stated whether they were struck by the Moghul Emperors whose names they bear or issued from the Bombay Mint.

(i) (G. P. T.) Pl. V. 9.

R.
Weight, 349 grains.
Size, 1'0.
Mint, Sūrat.

Date, [1172] 5th regnal year.

M.M., ع in the س of جلوس

Obv.		Rev.	مانوس مہمنت سنگہ ہ جلوس ضرب سورت
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(ii) (R. F. M.) Pl. IV. 10.

R.

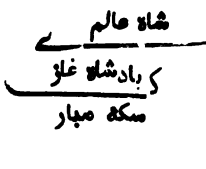
Weight, 350 grains.

Size 1·0.

Mint, Sūrat.

Date, [1176] 4th regnal year.

M.M., seven petalled flower in the س of جلوس

Obv.		Rev.	مانوس مہمنت سنگہ جلوس ضرب سورت
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H. N. WRIGHT.

41. "Mumbai-Sūrat" (مہمی سورت) or "Mahisūr (مہی سور)
which ?

Grave doubt should, it seems to me, be entertained regarding the existence of the so-called "Mumbai-Surat" Mint. And for the following five reasons:—

1. The only coin attributed to this mint is the *quarter*-rupee registered as No. 80 on page 280 of the British Museum "Catalogue of Indian Coins, Moghul Emperors."

2. Neither element of this compound-name, "Mumbai-Sūrat," can be regarded as an adjectival epithet subordinate to the other element. We have here co-ordination pure and simple, produced by the mere juxtaposition of the names of two distinct mint towns. In the long list of the Mughal Mints in India I can recall no other instance of a name built up in this agglutinative fashion.

3. If the legend given in the British Museum Catalogue is true to the original, then amongst contemporary coins this quarter-rupee is exceptional in recording the name of its mint *simpliciter*, without the prefixed term "darb," ضرب.

4. The crescent symbol here present, when found on other coins of this period, is held to be a mint-mark distinctive of the

French Compagnie des Indes. Now, in the 45th regnal year of Shāh 'Ālam II $\frac{\text{A.H. 1218}}{\text{A.D. 1803-4}}$, the year of the issue of this quarter rupee, France was still a belligerent power, harbouring hostile designs against British India. It is thus well-nigh incredible that any coin struck in that year by the English at either Bombay or Surat, cities remote from the sphere of French influence, should bear this acknowledged symbol of French ascendancy.

5. An autotype representation of the quarter-rupee is included in Plate XXXI of the British Museum Catalogue; but the mint-name as there shown—at least in my copy—does *not* admit of decipherment as Mumbai-Surat.

Rejecting for the above reasons the British Museum version, I venture to submit the following as the true rendering of the legend that is contained, so far as the plan admits, on the reverse of this coin:—

مانوس
میمنت
سنه ۱۲۰۸ هجری
ضرب
مہی سور

If this reading be correct, the quarter-rupee was struck at the Mahisūr (Mysore) Mint. At Mysore the French held a dominant position till the fall of Seringapatam in 1799, and doubtless the crescent on this coin of 1803-4 stands as a survival from that earlier period of power.

A comparison of this quarter-rupee (No. 80) with the Pondicherry and Maçhlipatan rupees (Nos. 128 and 143) reveals the fact that all three are of the same (French) type, bearing not only the crescent symbol, but an identical obverse impression. In all the arrangement of the words of the legend is precisely the same, and the row of diamond-shaped clusters, each of four dots, is a distinctive feature of the field.

The Lāhor Museum Catalogue registers a full rupee of Mahisūr, dated the 47th year of Shāh 'Ālam II, but unfortunately the description given of this rupee is imperfect. It would be interesting to examine the coin anew, and see whether in type and make it is allied to the "Mumbai-Surat" quarter-rupee.

Query:—In the L. M. Catal. Rodgers's brief note reads:—

"Year ۷۴ (for ۱۴۷) and mint مہی سور." May this ۷۴ (P=۱۴۷. . .) stand for the regnal year "4x" preceded by a rudely formed or misshapen crescent P*?

GEO. P. TAYLOR,
Akmaddābd.

* I have ascertained from Lāhor that the reverse of this coin bears the crescent symbol to the left of ۷۴.—H. N. W.

15. *The Emperor Bābar*—By H. BEVERIDGE, I.C.S. (retired.)

As everything relating to Bābar is interesting, I shall here set down a few things about him which are not mentioned in Erskine and Abul Faḡl. The most important is a tradition which is still current in Bābar's native country of Farghāna, and which is recorded in the "History of the Khanate of Khokand (*i.e.*, Farghāna) by Vladimir Petrovitch Nalivkine, a translation of which by Aug. Dozon was published at Paris in 1889. The author, after stating in his preface that the Memoirs of Bābar are nearly unknown in Farghāna or by the Sarts, and that Bābar himself has a bad reputation in that country, says, at p. 63, that when Bābar hurriedly evacuated Samarkand in 918 A.H. (1512 A.D.), after his defeat by the Uzbegs, Saizida Āfāq, one of his wives, who was accompanying him in his flight, was seized by the pangs of child-birth in the desert which extends from Khojand to Kāndbadām (east of Khojand and north of Isfava) and gave birth to a son. Bābar dared not tarry, and so the infant was wrapped up and left under some bushes. As a token of whose child he was, and as a reward to the finder, Bābar fastened round the babe his girdle which contained things of price. The child was found by natives of the country, and in allusion to the valuables which were beside him they gave him the name of Altyn Bishik or, "The golden cradle." Afterwards he received three other names *viz.*, Qultuq (the armpit?), Khān Tangriyār (the friend of God), and Khudāyān Sulṭān. It was by the last of these names that he was generally known in after life. Altyn Bishik grew up and spent most of his life at Akshī, one of the capitals of Farghāna. He was a disciple of the famous saint Makhdūm Ā'azam who was a native of Kāsān, and whose real name was Aḥmad Khwājagi Kāsāni. Several saints of the name of 'Makhdūm Ā'azam are mentioned in Shaw's history of the Khojas, A.S.B.J. Supp. for 1897, but the one referred to in the tradition before us is the Makhdūm Ā'azam who was a friend of Bābar and who died in 949 A.H. (1542 A.D. He lived chiefly at Samarkand, and is buried near there, at Dakhbīd. Shortly before his death he came to Akhsi and saw his disciple Altyn Bishik and his son who also had the name of Tangriyār and was then 5 or 6 years old. Altyn Bishik died in 952 A.H. (1545 A.D.), and his grandson Yār Muḥammad went off to India, to his relations, the descendants of Bābar.

The same tradition is told, with some differences, by Niyāz Muḥammad Khokandi in his Persian work the *Tārīkh-i-Shahrūkhī, Pantusov*, Kazan, 1885. With regard to the above tradition, which is probably genuine, it may be noted that an Āfāq Begam, a grand-daughter of Sulṭān Abū Sa'īd and consequently a cousin of Bābar, is mentioned in Gulbadan Begam's Memoirs, translation, p. 204. It is doubtful, however, if she can be the same as Saizida Āfāq. In a Persian MSS. in the Shaw Collection in the Indian Institute, Oxford, there is a reference to Bābar's friendship with Makhdūm Ā'azam, for it is stated there that Bābar,

after his victory over Rānā Sangā, sent Darvesh Muḥammad Sārbān to the saint with presents, and a quatrain expressive of his respect for dervishes. Perhaps it was on this occasion that Bābar sent to Transoxiana the long religious poem called the Mubayyan, one-half of which has been published by Berezine at Kazan, and of which Sprenger saw a copy at Lucknow. Bābar wrote it in A.H. 928 (A.D. 1521), for the instruction of Humāyūn. At Rampur in Rohilkand there is in the Nawab's Library a small book of Turki *verses* which, according to a note by Shah Jahān, are in Bābar's handwriting. It seems desirable that they should be edited and published. It is probably the Turki-divān mentioned by Ḥaidar Mirzā and Abul Faḥl.

SOME MSS. OF THE BĀBARNĀMA.

There is a good manuscript of 'Abdu-r-raḥīm's translation of the Memoirs in the Pott collection in the Eton College Library. It is No. 175, p. 22, of Professor Margoliouth's Catalogue of the Pott MSS., but is wrongly entered there as a History of Farḡhāna. The MS. was written in Agra and bears the date of 7 Jamāda-al-awwal, 1051, (4th August, 1641). The MS. formerly belonged to Mr. Richard Johnson, and was bought in Lucknow for ten rupees. In the Bibliotheca Lindesiana, now in the John Rylands' Library, Deansgate, Manchester, there is a thick octavo volume containing 'Abdu-r-raḥīm's translation of the Memoirs. It is a well-written copy (Nast'aliq), but has neither date nor colophon. Probably it belongs to the 17th century. At the end of the account of the translations of the year 908 there is a curious deviation from other manuscripts. Instead of ending abruptly, as in the Shirāzī Bombay Lithographs, p. 75, or in Erskine, p. 122, with the words "Should a man live a hundred, nay, a thousand years, yet at last he must die," it goes on to say that Bābar's friends came up and arranged that he should leave the place, and that his ladies (*Khātūnān-i-ḥaram*) should be taken care of. It looks as if Bābar or some copyist had attempted to round off the description. As is well known, some of the Turki copies have a much longer narrative in this place. The Bibliotheca Lindesiana also possesses a small fragment of the Turki Memoirs. There is no date or colophon, but the MS. looks older than 1780, the date assigned by Mr. Kearney, and it has at the end the words *dasḥkhat* Nūr Muḥammad *ablah* (? ignorant?) *wa* Abul Faḥl. Possibly this means that the MS. was written or signed by the Nūr Muḥammad who was Abul Faḥl's sister's son. There are also one or two other words which I could not read, but which perhaps give a regnal year.

It is much to be wished that the history of Bābar by Zain *Khawāfy* entered in Sprenger's Catalogue of the Elliot MSS. J.A.S.B., Vol. XXIII, p. 241, referred to in a note at p. 123 of the *Asiatic Quarterly Review* for July 1900, could be found. It was described as a very old copy and as the property of a friend of Sayyad Jān of Cawnpore. Perhaps it still exists at Cawnpore.

16. CONTRIBUTIONS TO ORIENTAL HERPETOLOGY III.—*Notes on the Oriental Lizards in the Indian Museum, with a List of the Species recorded from British India and Ceylon. Part 2.*—By NELSON ANNANDALE, B.A. (Oxon.), D.Sc. (Edin.), Deputy Superintendent of the Indian Museum.

The present is a continuation of my former paper with the same title, and deals with the remaining families of Oriental Lizards, viz., the Lacertidæ, Scincidæ and Dibamidæ. As before, I append a revised list of the species in the families dealt with which have been, or are here, recorded from British India and Ceylon, with their distribution within these limits. To the epithet 'Oriental' I have given a liberal interpretation, including under the category of Oriental Lizards all those forms which occur on the mainland of Asia or in the western section of the Malay Archipelago, but excluding those only known from New Guinea or Australia.

Dibamus is represented by two specimens, a male and a female, from the Nicobars. They do not call for any comment. As regards the Lacertidæ and Scincidæ, however, the series is a fine one, naturally richest in Indian and Burmese forms—we are rather poor in examples from Ceylon—but including a very considerable number of specimens from Palestine (collected and presented by the late Dr. J. Anderson, F.R.S.), from Persia¹ (mostly obtained by Dr. W. T. Blanford, F.R.S.) and from Eastern Turkestan² (with a few exceptions, from the late Dr. F. Stoliczka). There are a few specimens also from Malaya, one or two from Singkip Island off Sumatra and several from Borneo; the last obtained from the Sarawak Museum, while those from Malaya and Singkip were either collected by one of the Museum collectors under the auspices of the late Professor J. Wood-Mason or were donated by the late Dr. Stoliczka. Otherwise the exotic (i.e., extra-Indian) part of the collection is of little importance; it consists of a considerable number of miscellaneous specimens from Australia and the two Americas and a few from Europe and Africa.

LACERTIDÆ.

TACHYDROMUS SEPTENTRIONALIS, Gthr.

T. haughtonianus, *Jerd., P.A.S.B.*, 1870, p. 72; *Stol., J.A.S.B.*, (2), 1872, p. 88.

T. tachydromoides (*part.*), *Blgr., Cat. Liz.* iii., p. 5, and *Faun. Ind., Rept.*, p. 169.

T. septentrionalis, *id., P.Z.S.* 1899, p. 161.

¹ See Blanford, *Eastern Persia*, Vol. ii., Reptiles.

² *Id.*, *Scientific Results of the Second Yarkand Mission*, Reptiles.

The synonymy of the Indian species of *Tachydromus*, like that of many other genera, has been rendered obscure by imperfect descriptions. At least three closely related forms must be recognized as occurring within or near the borders of British India. They are (1) *T. sexlineatus*, Gray, recorded from Assam, Burma, Siam, the Western Himalayas, the Siamese Malay States, S. China, Sumatra, Java, Borneo, etc.; (2) *T. septentrionalis*, Gthr., known from S.-W. China and here recorded from Assam, and (3) *T. tachydromoides* (Schleg.), formerly believed to occur in Assam but probably confined, so far as our knowledge goes, to China, Korea and Japan. A very distinct species, *T. smaragdinus*, Blgr., from the Loo Choo Islands is represented in the Museum by a specimen given by the late Dr. J. Anderson.

T. tachydromoides was apparently included in the Indian fauna by Boulenger because he regarded it as synonymous with *T. haughtonianus*, which was described later. He also regarded *T. septentrionalis*, Gthr., at the time when he wrote his volume in the "Fauna," as identical with Schlegel's species; but more recently he has pointed out that Günther's species is really distinct, though very closely allied to the other. An examination of Jerdon's type in the Indian Museum shows that it is merely a specimen of *T. septentrionalis*, and, therefore, as Boulenger's more recent views seem to be correct, the name *T. tachydromoides* must be crossed out from the list of the Indian Lizards and *T. septentrionalis* inserted in its place.

Apparently the only specimen of *T. haughtonianus* recorded was the type, which I have examined. It is distinguished from specimens of *T. tachydromoides* by the absence of granules between the supraoculars and superciliaries and of a shield between the supraocular and the loreal. From *T. sexlineatus* it differs in having five rows of dorsal scales and a distinctly more elongated head. There is only one femoral pore on each side, but no small scales separate the outer rows of lateral plates. The specimen has four pairs of chin shields developed quite symmetrically—a condition I find also in two young specimens of *T. sexlineatus*, out of twenty-seven, young and adults, of this species examined. The coloration and proportions (except as regards the head) are practically identical with those of *T. sexlineatus*.

LACERTA VIRIDIS (Laur.)

L. viridis var. *major*, Blgr., *Cat. Liz.*, iii, p. 17.

The Museum possesses three specimens from Mount Hermon (*J. Anderson*) of Boulenger's variety *major*. As there is in the British Museum a specimen of the variety (Gray's species) *strigata* from the same locality and collection, the two varieties must occur together. The only specimens of *strigata* in the Indian Museum come from Persia (*W. T. Blanford*) and are immature.

OPHIOPS SCHLEUTERI, Boett.

O. schleuteri, *Blgr., Cat. Liz.*, iii, p. 77.

O. elegans (part), *Werner, Zool. Jahrb. Syst.* xix, 1904, p. 334.

Among a large number of specimens of *Ophiops elegans* from Palestine and Asia Minor (*J. Anderson*) six individuals from Mount Hermon have the more numerous body scales and other peculiarities of *O. schleuteri*, Boett., answering very closely to the descriptions of this form, which was at one time believed to be peculiar to Cyprus. The differences between *O. elegans* and *O. schleuteri* are very small but seem to be constant; they can generally be perceived, by mere inspection, without actually counting the scales. Boulenger suggests that Boettiger's species may be only a variety, but it seems best to consider it for the present as a distinct species occurring side by side with *O. elegans*, which, however, has a very much wider range, extending from Turkey to North-West India.

The remaining Lacertids in the collection call for no special mention. Only two species, *Scapteira scripta*, Strauch, (of which we have two Indian examples) and *S. aporosceles*,¹ Alc. & Finn., both from Baluchistan, have been added to the Indian fauna since 1890.

SCINCIDÆ.

MABUIA RUGIFERA (Stol.)

M. rugifera, *Blgr., Faun. Ind., Rept.* p. 190.

A specimen from Perak (*Mus. colltr.*) has seven longitudinal whitish bands on the dorsal and lateral surfaces. The three innermost commence immediately behind the head, the next two on either side at the posterior margin of the orbit. At the posterior extremity of the body they become indistinct, disappearing on the tail. We have also a specimen, in which the colour has faded, from the Nicobars (*Stoliczka*).

MABUIA MULTIFASCIATA, (Kuhl)

M. multifasciata, *Blgr., Faun. Ind., Rept.*, p. 191; *S. Flower, P. Z. S.* 1899, p. 646.

The Museum possesses a large series of this common Indo-Malayan skink. The following table shows the number of specimens with tri- and quinquecarinate dorsal scales respectively

¹ Alcock and Finn, *J.A.S.B.*, 1893 (2), p. 559.

from different localities Six specimens from Penang and two from Upper Burma have tricarinate dorsal scales :—

	Total No.	With 3 Keels.	With 5 Keels.	Percentage with 3 Keels.
Assam ...	13	12	1	92.3
Lower Burma ...	26	24	2	92.3
Andamans ...	14	3	11	21.4
Nicobars ...	5	5	0	100
Borneo ...	30	30	0	100

These figures show clearly, though the number of specimens examined is not very great, that while Assamese, Burmese and Bornean specimens agree with those from Malaya (*vide* S. Flower) in being mostly provided with tricarinate dorsal scales, there is a greater tendency among Andaman specimens for these scales to be quinquecarinate, as I have already suggested.¹

MABUIA TYTLERI, Blgr.

M. tytleri, Blgr., *Faun. Ind., Rept.*, p. 191.

Of this Andaman Skink the Museum possesses seven adults and a young one. One of the adults was obtained in the Botanical Gardens near Calcutta by the late Dr. Anderson; but probably it had been introduced with specimens of living plants. As Boulenger had only Theobald's and Stoliczka's imperfect descriptions to go upon, it may be well to give a new diagnosis of the species, which is very distinct from any other.

Lower eyelid scaly: a postnasal. Body stout, head large, triangular; snout moderate, obtusely pointed; cheeks swollen in the adult; tail long and slender, more than twice the length of head and body when perfect. Nostril behind suture between rostral and first labial; supranasals generally in contact behind rostral; anterior loreal not, or but slightly, deeper than posterior, in contact with second, sometimes also with first, labial; frontonasal slightly broader than long; præfrontals in contact mesially; frontal generally as long as frontoparietals and interparietal together, in contact with second supraocular; four supraoculars, second largest; superciliaris inclined to break up irregularly. Ear-opening crescentic, vertical, smaller than a lateral scale, without, or with small and indistinct, anterior lobules. Dorsal scales tricarinate, nuchals and laterals feebly keeled; 24 to 26 scales round centre of body, subequal. The hind limb reaches the axilla. Subdigital lamellæ smooth. *Coloration*: dorsal surface uniform greyish brown, spotted on both limbs with dark-brown and white; ventral surface dirty-white or greenish, tail dull-green or dull yellow.

¹ *J.A.S.B.* (2), 1904, Suppl., p. 19.

In the young there is a dark lateral stripe which gives the lizard much the appearance of *Lygosoma maculatum*, with which, judging from specimens in the Indian Museum, it has sometimes been confused. Even a very superficial examination is of course sufficient to distinguish between the two forms. The dimension, at any rate in respect to length, appear to exceed those of *M. multifasciata*; but the tail is very brittle and none of our specimens seem to be quite perfect as regards this organ. The shape of its head is very different from that of this species.

M. tyleri appears to be much scarcer than *M. multifasciata* in the Andamans.

MABUIA MONTICOLA, (Theob.)

Euprepes monticola, Gthr., apud *Theobald* (nec *Günther*) *Rept. Brit. Ind.*, p. 52.

The specimens described as *Euprepes monticola*, Gthr., by Theobald in his *Reptiles of British India* are quite distinct from that form, which is (as Boulenger states) a synonym of *Mabuia dissimilis* (Hallow). The following description is based upon Theobald's examples, three in number, and a young specimen from Arakan (*Mus. colltr.*).

Lower eyelid scaly: a postnasal. Habit slender; head very small; snout short, obtusely pointed; tail slender, about $1\frac{1}{2}$ times the length of head and body. Hind limb reaches the elbow of adpressed fore-limb. Supranasals meet behind rostral, fronto-nasal broader than long; præfrontals in contact behind fronto-nasal; four large supraoculars followed by one small one, second largest, in contact with frontal; parietals entirely separated by interparietals, with straight posterior termination; one pair of nuchals. Ear-opening subcircular, smaller than a lateral scale, with several feeble anterior lobules. Dorsal scales bi-, tri- or quinquecarinate, generally with only two keels distinct. 34 to 36 scales round centre of body. The colour has completely faded in the specimens.

Theobald's specimens have no history; possibly they come from the Eastern Himalayas or the hills of Assam.

MABUIA ANAKULAR, nom. nov.

Euprepes longicaudatus, *Anderson* (nec *Hallow*), *J.A.S.B.* (2) XL, 1871, p. 13.

The specimen described by Anderson as *Euprepes longicaudatus* represents a very peculiar form, resembling in its elongated and cylindrical shape some members of the genus *Lygosoma* but technically belonging to the genus *Mabuia*. As Anderson's name was preoccupied by Hollow, I have rechristened the species. The following description is based upon Anderson's specimen:—

Habit snake-like; limbs well developed, pentadactyle, hind limb reaching elbow of adpressed fore-limb; distance between tip of snout and fore-limb contained $1\frac{1}{2}$ times in distance between

axilla and groin. Head very small; snout short, obtusely pointed, convex above. Lower eyelid scaly; a postnasal. Supranasals separated by frontonasal. Præfrontals form a median suture; frontal shorter than frontoparietals and interparietal together; parietals meet behind interparietal, one pair of enlarged nuchals. Ear-opening a little smaller than eye-opening, longitudinal, without lobules. Thirty scales round centre of body; dorsals, laterals and nuchals with 4 to 6 keels, only two of which are at all strongly marked. Length from snout to vent 35 mm.; tail (now much broken) at least three times as long as, stout in comparison with, body.

One specimen from Cachar (*Mus. colltr.*).

Anderson was right in regarding this species as allied to Theobald's *Euprepes monticola*, from which, however, it is quite distinct.

LYGOSOMA MACULATUM, (Blyth)

L. maculatum, *Blgr., Faun. Ind., Rept.*, p. 196.

Comparison with other specimens (of which we have a very large series), shows that those from Narcondam (see Annandale, *J.A.S.B.*, (2) 1904, *Suppl.*, p. 13) belong to this species. Boulenger says (*loc. cit.* and similarly in the *Catalogue of Lizards* iii, p. 242), "distance between end of snout and fore-limb equals $1\frac{1}{2}$ to $1\frac{1}{2}$ times distance between axilla and groin." This is obviously a *lapsus calami*, for the latter distance is the greater.

LYGOSOMA MITANENSE, sp. nov.

Diagnosis—

Allied to *Lygosoma indicum*, with which it agrees in lepidosis, except that it has 42 smooth scales round the centre of the body, the dorsals being considerably larger than the laterals or the ventrals. The hind limb reaches a point midway between the shoulder and the ear. Length from tip of snout to fore-limb is contained about $1\frac{1}{2}$ times between axilla and groin. The tail, which is laterally compressed, is more than twice the length of the head and body. The type is much discoloured but appears to have been marked in much the same way as *L. maculatum*.

Dimensions of type—

Total Length	...	130	mm.
Head	...	10	"
Body	...	34	"
Tail	...	91	"
Fore-limb	...	16	"
Hind Limb	...	25	"
Breadth of Head	...	6.5	"

A single specimen from Meetan, Lower Burma (*Tenasserim Expt.*).

LYGOSOMA DUSSUMIERII var. CONCOLOR, var. nov.

We have a specimen from Canara (*Col. Beddome*) which perhaps differs sufficiently from others to be given a varietal name, though the differences may be due to age. The rostral is convex; the dorsal and lateral surfaces are of an almost uniform pale bronze marbled on the sides of the neck with white, a colour which appears in the same manner on the labials and the sides of the tail; the size is greater than that of any other specimen I have seen (snout to vent 57 mm; tail 105 mm.).

LYGOSOMA OLIVACEUM var. GRISEUM, (Gray).

The only specimen of this variety in the Museum is one from Sinkip Island (*J. Wood-Mason*). Mr. Boulenger has kindly examined it. Specimens from the Andamans and Nicobars belong to the typical variety.

LYGOSOMA CACHARENSE, sp. nov.

Diagnosis.

Subgenus *Keneuxia*, Gray.

Habit lacertiform; limbs well developed, pentadactyle; hind limb reaches wrist of adpressed fore-limb. Distance between tip of snout and fore-limb contained $1\frac{1}{2}$ times in distance from axilla to groin. Snout short, obtuse, convex above; lower eyelid scaly; no supra- or postnasals. Præfrontals meet behind rostral; frontal as long as frontoparietals and interparietal together; frontoparietals meet behind parietal; so enlarged nuchals. Fifth and sixth upper labials beneath eye, enlarged. Ear-opening almost as large as eye-opening, oval, vertical. Twenty-four smooth, subequal scales round centre of body, nonimbricate laterally; præanals slightly enlarged. Tail less than twice the length of head and body. *Coloration*—dark-brown above, with darker lateral line; paler below:—

Total Length	...	...	118 mm.
Head	...	...	10 "
Body	...	...	35 "
Tail	...	...	73 "
Fore-limb	...	...	12 "
Hind Limb	...	...	23 "
Breadth of Head	...	...	7 "

One specimen from Nemotha, Cachar (*J. Wood-Mason*).

LYGOSOMA PULCHELLUM (Gray)

L. pulchellum, *Blgr., Cat. Liz.* iii., p. 254, pl. xvii, fig. 1.

I have been somewhat surprised to find an example from Tavoy (*Mus. colltr.*) of this extremely beautiful and distinct little Skink, which was described from the Philippines. It agrees

closely both as regards lepidosis and proportions (actual and relative) and as regards coloration with Boulenger's description and figures. Major Alcock has kindly examined some of its most characteristic features with me.

LYGOSOMA SIKKIMENSE (Blyth)

There is a specimen from Simla in the Indian Museum, wrongly identified as *L. dorise*. I am not aware that the species has been recorded hitherto from the Western Himalayas.

LYGOSOMA TRAGBULENSE, Alc.

L. himalayanum var. *tragbulense*, Alcock, *Report N. H. Pamir Bound. Comm.*, p. 36, pl. II, figs. 1, 1a.

Out of eleven specimens of *Lygosoma* collected on the Tragbal pass by Dr. G. M. Giles four belong to Alcock's variety *tragbulense*, while the remainder represent the typical *L. himalayanum*. Some of the latter are very much smaller than those of *tragbulense*, which, as well as the types, are fairly well grown. The coloration, therefore, cannot be due to youth; and though variety in coloration in itself is not a safe specific difference in the Skinks, it may be taken, when it is very distinctive, as an additional reason for separation if combined with differences in scaling. The greater number of subdigital lamellæ on the fourth toe which Alcock noted in his specimens, is constant, as are also the characteristic dorsal and lateral stripes, while the ventral scales have not the obscure dark edging common in *L. himalayanum* but are of an opaque white. There may be two scales under the eye; but this character is not constant.

LYGOSOMA BEDDOMII, Blgr.

The only specimen in our collection which can be assigned to this species differs from the descriptions in that the limbs do not meet when adpressed. Otherwise it conforms to Boulenger's diagnosis.

LYGOSOMA FORMOSUM (Blyth)

Mocoa formosa, Blyth, *J.A.S.B.*, (2) xxii, p. 651; *Blgr.*, *Faun. Ind.*, *Rept.*, p. 205.

The following description is based on the three types of Blyth's imperfectly described species:—

Subgenus *Emoa*, Gray.

Habit stout; head moderate; snout obtusely pointed; limbs well developed, overlap slightly; head and body about $\frac{3}{4}$ length of tail. Lower eyelid with an undivided transparent disk, no supra or postnasals. Nostril behind suture between rostral and first labial; rostral forms a straight or nearly straight suture with frontonasal; præfrontals in contact; frontal in contact with

1st and 2nd supraculars; 4 supraoculars, 2nd longest; 6 to 8 superciliaries, subequal; frontoparietals distinct; no enlarged nuchals. Dorsal scales smooth, larger than ventrals or laterals; 30 to 34 scales round centre of body. *Coloration*—Dorsal surface olive-green or pale-brown, spotted with dark-brown and white; a dark lateral band, also spotted with white; ventral surface and tail pale-brown or olive-green.

From Mirzapore (North-West Provinces) and Wazirabad, Punjab.

LYGOSOMA ATROCOSTATUM (Gray)

L. atrocostatum, *Blgr., Cat. Liz.* iii., p. 295; *S. Flower, P.Z.S.* 1899, p. 649.

L. jerdonianum, *Blgr. t. c.*, p. 300.

L. singaporense, *id., t. c.*, p. 297.

In addition to Stoliczka's type of *Mabouya jerdoniana* from Pulau Tikus (Rat Island) off Penang, we have a specimen from Sinkip Island (*J. Wood-Mason*) which resembles it closely on the whole but has only 34 scales round the centre of the body, and six specimens from Borneo (*Saravak Mus.*). These Bornean and Sinkip specimens have a single frontoparietal, while this scale is only partially divided in Stoliczka's. One of the Bornean specimens has supraoculars. I agree with Flower in regarding *L. jerdonianum* as a synonym of *L. atrocostatum*, to the synonymy of which I would also add *L. singaporense*, though I have not seen a specimen of the last.

L. atrocostatum does not appear to have been recorded from Sumatra, where it probably occurs, being found on Sinkip.

LYGOSOMA CHINENSE (Gray)

L. chinense, *Blgr., Cat. Liz.* III, p. 318.

A specimen from Hong Kong (*J. Wood-Mason*) must, I think, be referred to this species. It has 4 supraoculars, and the coloration is as follows:—dorsal surface pale brown; lateral surfaces and tail mottled with dark brown and white; a dark lateral line starting from below the eye and becoming indistinct behind the fore-limb: ventral surface yellowish.

LYGOSOMA LINEOLATUM (Stol.)

A specimen from Martaban is probably one of the types, but is entered in the Museum register simply as purchased, which is the case with other types of Stoliczka's.

LYGOSOMA COMOTTII, Blgr.

A specimen from Tavoy (*Mus. colltr.*) agrees with Boulenger's description except that the fifth, not the sixth, upper labial is under the centre of the eye. The species does not appear to have been recorded from Lower Burma.

LYGOSOMA ANGUINUM (Theob.)

In addition to the types we have another specimen from Pegu and one from Amherst in Northern Tenasserim.

EUMECES SCUTATUS (Theob.)

E. tæniolatus, *Blanf. Res*, 2nd Yark. *Miss. Rept.* p. 19.

E. scutatus, *Blgr. Faun. Ind. Rept.*, p. 218.

The Museum has specimens from Sind (*Karachi Mus.*); Rajputana (*N. Bellety*); N. Kashmir (*2nd. Yarkand Miss.*); Chitral (*F. J. Daly*), and Afghanistan (*Dr. R. M. Green*). The species has frequently been confused with *E. tæniolatus*.

EUMECES TÆNIOLATUS (Blyth)

E. tæniolatus, *Blgr. Faun. Ind., Rept.*, p. 219.

Of this species we have only two true specimens, both from the Punjab Salt Range (*Theobald*). One has two, the other only one postmental; otherwise they agree closely, differing considerably from the preceding form.

SCINCUS MITRANUS, Anders.

S. mitranus, *Blgr., Cat. Liz.* iii, p. 393.

S. arenarius, *id., t.c.* p. 392; & *Faun. Ind., Rept.*, p. 221.

In his description of *S. mitranus* Anderson states that it has five supraoculars. The type, however, (the locality of which is doubtful) has six on one side of the head; while on the other traumatic injuries to the skin forbid an opinion. Specimens of Murray's *S. arenarius* from Sind agree in every other respect with this individual, which is, on the whole, well preserved.

CHALCIDES OCELLATUS (Forsk.)

There are a number of specimens (*purchased*) in the Museum said to come from Haldibari (Kooch-Behar): their true *provenance* is doubtful but probably Indian. They belong to *var.* A of Boulenger's *Catalogue* (iii, p. 401), as also do Persian examples (*Blanford*), but are rather darker than examples from Palestine and Egypt.

LIZARDS OF INDIA, BURMA AND CEYLON (II).

LACERTIDÆ.

156. *Tachydromus sexlineatus*, Daud. ... E. Himalayas; Assam; Burma.
 157. " *septentrionalis*,* Gthr. Assam (= *T. tachydromoides* Schleg.
 (partim) in Blgr., *Faun. Ind., Rept.*, p. 169).
 158. *Acanthodaactylus cantoris*, Gthr. ... N.-W. India.
 159. " *micropholis*,§ Blanf. ... Baluchistan; Sind. [Berar.
 160. *Cabrita leschenaultii* (M.-Edw.) ... S. India as far north as S. E.
 161. " *jerdonii*, Bedd. ... Godavari Valley; Ellore.
 162. *Ophiops jerdonii*, Blyth. ... Central and N.-W. India.
 163. " *beddomii* (Jerd.) ... S. India; Bombay Presidency.
 164. " *elegans*, Ménétr. ... Punjab.
 165. " *microlepis*,§ Blanf. *... N. India from Katch to W. Bengal.
 166. *Eremias guttulata* (Licht.) ... Sind; Baluchistan.
 167. " *brevirostris*§ (Blanf.) ... Punjab.
 168. " *velox* (Pall.) ... Baluchistan.
 169. " *fasciata*,§ Blanf. ... Baluchistan.
 170. *Scapteira scripta*,* Strauch ... N. Baluchistan (*Antea*).
 171. *Scapteira acutirostris*, Blgr. ... N. Baluchistan.
 172. *Scapteira aporosceles*,*§ Alc. ... N. Baluchistan (Alcock & Finn,
 & Finn *J.A.S.B.* (2) 1896).

SCINOIDÆ.

173. *Mabuia bibronii* (Gray) ... S. India; Ceylon.
 174. *Mabuia doriae*, Blgr.... ... Upper Burma.
 175. *Mabuia dissimilis* (Hallow) ... N. India from Sind to Bengal.
 176. " *septemtaeniata* (Reuss) ... Sind.
 177. " *novemcarinata*§ (Anders.) ... Mandalay.
 178. " *beddomii* (Jerd.) ... S. India, north to S.-E. Berar.
 179. " *vertebralis*, Blgr. ... Central India.
 180. " *rugifera*§ (Stol.) ... Nicobars. [Nicobars.
 181. " *multifasciata* (Kuhl) ... Assam; Burma; Andamans and
 182. " *tytleri*, Blgr. ... Andamans; Calcutta (introduced?).
 183. *Mabuia quadricarinata*, Blgr. ... Kachyen Hills, Upper Burma.
 184. *Mabuia monticola* *§ (Theob.) ... Arakan; ? E. Himalayas (*Antea*).
 185. " *anakular*,*§ Annand. ... Cachar (= *Euprepes longicaudatus*
 Anders. *Antea*).
 186. *Lygosoma indicum* (Gray) ... E. Himalayas; Hills of Assam and
 Burma.
 187. " *mitanense*,*§ Annand. ... Lower Burma, (*Antea*).
 " *maculatum* (Blyth.) ... N. Bengal; E. Himalayas; Assam
 Burma.
 188. " *dussumieri*, D. & B. ... Malabar province.
 189. " *olivaceum* (Gray) ... Tenasserim; Andamans; Nicobars.
 190. " *cacharensis*,*§ Annand. ... Cachar (*Antea*).
 191. " *Lygosoma subcæruleum*,* Blgr. ... Travancore (Blgr; *Ann. Mag. N. H.*
 1891, p. 289).
 192. " *Lygosoma pulchellum* * (Gray) ... Tavoy (*Antea*).
 193. " *Lygosoma kakhienense*, Blgr. ... Kachyen Hills, Upper Burma.
 194. *Lygosoma melanostictum*, Blgr. ... Tenasserim; Tavoy.
 195. " *sikkimensis* (Blyth) ... W. Bengal (Paresnata Hills); E.
 Himalayas; Simla.
 196. " *himalayanum* (Gthr.) ... W. Himalayas; Kashmir; Central
 Provinces.
 197. " *tragbalsense*,*§ Alc. ... Tragbal Pass, Kashmir (Alc., *Pamir*
Bound. Comm. N. H., p. 36).
 198. " *Lygosoma doriae*, Blgr. ... Upper Burma.

200. *Lygosoma ladacense* (Gthr.) ... Ladak.
 201. *Lygosoma laterimaculatum*, Blgr. ... S. India.
 202. *Lygosoma bilineatum*¹ (Gray.) ... "
 203. *Lygosoma beddomii*, Blgr. ... S. India.
 204. " *macrotympaanum* § (Stol.) S. Andamans.
 205. *Lygosoma macrotis* (Steind.) ... Nicobars.
 206. *Lygosoma formosum**§ (Blyth) ... N.-W. Provinces; Punjab (*Antea*).
 207. " *taprobanense*, (Kel.) ... Ceylon.
 208. " *fallax*, Ptrs. ... "
 209. " *lineolatum* § (Stol.) ... Martaban, Lower Burma.
 210. " *comotti*, Blgr. ... Upper Burma; Tavoy.
 211. " *allopunctatum* (Gray) ... S. & E. India; Assam; Burma.
 212. " *punctatum* (Linn) ... Peninsular India; Ceylon.
 213. " *guentheri* (Ptrs.) ... S. India; C. India; Bombay.
 214. " *cyanellum**§ (Stol.) ... Burma.
 215. " *aguinum* § (Theob) ... Pegu; N. Tenasserim.
 216. *Lygosoma calamus*, Blgr. ... Upper Burma.
 217. *Lygosoma lineatum* (Gray) ... Central Provinces.
 218. *Lygosoma punctatolineatum*,* Blgr. ... Bia-po, Burma (Blgr., *Ann. Mus. Genova*, 1893, p. 321.)
 219. *Ablepharus brandtii*, Strauch ... Punjab; Sind; Baluchistan.
 220. " *grayanus*, § (Stol.) ... Katch and Sind.
 221. *Ristella rurkii*, Gray. ... Anamalay Hills, S. India.
 222. " *travancorica*, Bedd. ... Travancore (hills).
 223. *Ristella guentheri*, Blgr. ... Madura (hills).
 224. *Ristella bedonii*, Blgr. ... S.-W. India (hills).
 225. *Tropidophorus berdmorei*, (Blyth) ... Lower Burma.
 226. *Tropidophorus yunnanensis*, Blgr. ... Kakhyen hills, Upper Burma.
 227. *Eumeces scutatus* (Theob.) ... Sind; Katch; Punjab; Kashmir; Chitral.
 228. " *tæniolatus*§ (Blyth) ... Punjab Salt Range.
 229. " *schneideri* (Daud) ... Baluchistan.
 230. " *blythianus*§ (Anders.)... ? Punjab; Afridi District.
 231. *Scincus mitranus*,*§ Anders. ... Sind (-*S. arenarius*, Murray. *Antea*).
 232. *Ophiomorus tridaactylus* (Blyth) ... Punjab; Sind; Baluchistan.
 233. *Ophiomorus blandfordii*, Blgr. ... Baluchistan.
 234. *Chalcides ocellatus* (Forsk) ... Sind.
 235. *Chalcides pentadaactylus* (Bedd.) ... Beypore, Malabar.
 236. *Sepophis punctatus*, Bedd. ... Golconda and Godavari Hills.
 237. *Chalcidesepts thwaitesii* (Gthr.) ... Ceylon.
 238. *Acontias burtonii* (Gray) ... "
 239. " *monodactylus* (Gray) ... "
 240. " *layardii*, Kelaart ... "
 241. *Acontias sarasinorum*, F. Müller ... "

DIBAMIDÆ.

242. *Dibamus novæ-guineæ*, D. & B. ... Nicobars.

In the above list, as in that of the preceding families, a * opposite a name indicates that the species is new to the Indian fauna since 1890; a § that the Indian Museum possesses a type or co-type. Names in italics are those of species not represented in the collection.

¹ Y. Rama Chandran, M.A., student, Madras, has lately sent me a specimen of *L. bilineatum* which has, as he points out, 26 scales round the body. June 22nd, 1905.

² Including *L. fess.* See Boulenger, *Ann. Mus. Gen.* (ii) xiii, p. 320.

In Boulenger's volume in the "Fauna of India" (1890), 221 species of Lizards are described; at present 242 appear to occur within the Indian Empire and Ceylon, but the grounds on which three of these are included are a little insecure. The majority of the species added have been new to science, but a few previously known from other parts of Asia have been recorded from Baluchistan. Several new forms have been described from the same neighbourhood several from Burma (chiefly from Lower Burma), one from S. India, two from the Andamans and one from Cachar. Undoubtedly novelties still remain to be discovered, especially in the extreme east of the Empire; and probably certain forms now regarded as solely Malayan will be found also in Tenasserim. Several forms, e.g. *Lygosoma zeburatum* and *L. fex* have been shown to be at most varieties of previously described species.

Mr. Grey Pilgrim, of the Geological Survey of India, has lately collected in Eastern Arabia and presented to the Museum the following specimens:

<i>Uromastix microlepis</i> , (Blanf.)	...	One specimen.
<i>Varanus griseus</i> (Daud.)	...	"
<i>Eremias brevirostris</i> (Blanf.)	...	Two specimens.

I neglected to mention in the former part of this paper, that *Gymnodactylus khasiensis* has lately been recorded from Upper Burma by Boulenger, *Journ. Bombay N.H. Soc.*, xiii, p. 553.

July 26th, 1905.

Note.—Through the kindness of Dr. A. Willey, F.R.S., Director of the Colombo Museum, I have lately had an opportunity of examining the types of Nevill's *Euprepes halianus*, a Ceylonese Skink regarding the systematic position of which Boulenger expresses a doubt. As they possess retractile claws, while otherwise agreeing with *Lygosoma*, I propose to place them in a new genus *Theconys*, which will be fully described later in *Spolia Zeylanica*, the organ of the Colombo Museum. August 23rd, 1905.



17. *Tibet, a dependency of Mongolia.*—(1643—1716 A.D.).—By Rai SARAT CHANDRA DAS, Bahadur, C.I.E.

The six Khanates of Mongolia had, for a long time, remained under a solemn compact which kept them in peace. At last, the Khan of Chakar, named Legdan, who had grown ambitious, made a breach into it, in consequence of which internal dissensions broke out among them. Friendly advisors and intermediators came from the neighbouring States to bring upon reconciliation among the contending parties in Khalkha, the country of the Kulmuc Mongols. One of the claimants to inheritance in that Khanate being driven out of the country, came with his hordes to the bank of Lake T'high-Côg Gyalmo and took possession of the province of Hoço-tshe of Thumed-Mongolia. His descendant who had settled there was attached to the *shwamar* or Red-cap School of Tibet. About this time the two rival sects of Buddhism, namely, the Red-cap and the Yellow-cap Lamas, were fighting with each other in Tibet. Rab-chyampa, a representative of the Red-cap sect proceeded to Mongolia and appealed for help to the Khan of Hoço-tshe. In the year *Tree-hog* the Khan sent his son Arsaling (Abaling) at the head of 10,000 Tartars to Tibet to extirpate the Yellow-cap Church. The prince being humane and pious refrained from doing injury to the Yellow-cap Lamas, so the Red-cap Lamas, out of spite, sent misrepresentations against him to his father, accusing him of partiality to their enemies. The Khan, who was at that time engaged in war in the Kokonor country, became furious at his son's conduct and wrote to the Rab-chyampa to take the prince's life. On Arsaling's death, which was probably caused either by poison or assassination, the Tartar troops were thrown into disorder. For the want of a leader they dispersed like a cloud and returned to their country. About this time the Khan of Duthukthu, a descendant of Jenghis Khan, who had also espoused the cause of the Red-cap Lamas, started from Chakar with a large army to help them in their struggle with the Yellow-Church. But on his arrival at Kokonor he accidentally died. A great enemy of Buddhism now arose in Kham, who followed the Bon religion. This was the King of Beri, named Don-yo dorje. He, like King Langdarma, had destroyed all the Buddhist Institutions of Kham belonging to the Red-cap and the Yellow-cap sects. He was about to start with a large army for conquering Tibet proper when the Khan of Celeuth Mongols entered Kham with his Tartar hordes. This was Gushi Khan the third of the five sons of the Khan of Hoçod, one of the four divisions of Orad Mongolia. Like Jenghis Khan, he too was believed to have been an incarnation of the Lord of Death. His native name was Toral Beñu, but he is better known by the names Gushi Khan or Gegan Khan. Owing to his devotion to the cause of the

[N. S.]

Yellow-cap Church he is known in Tibet by the Tibetan name of Tenzing Choigyäl, the upholder of religion or Dharma Rājā. While only thirteen years of age he was entrusted by his father with the leadership of the Tartar hordes. He defeated the Gokar¹ Tartars and brought them under subjection in 1593. At the age of 25 he was successful in reconciling the Kulmuks of Khalkha with the Eleuth Mongols who were quarrelling on account of a question of precedence between the hierarch of Gahdan and Ston skor Sabg-drung named Jetsundampa, and thereby averted a fierce and bloody war in the heart of Mongolia. For this service, he was decorated with the holy order of Tā Kausri by the Emperor of China in 1605, from which circumstance his name Kushri or Gushi Khan had originated. At the age of 35, at the earnest entreaties of Desrid Sonam Choiphel, Panchen Rinpoche of Tashilhampo and other representatives of the Yellow-Church, he agreed to march into Tibet to punish their enemies. In the year *Fire-ox* in the first month, i.e., February, he entered Kokonor with a large army. He despatched about 10,000 troops to Chog-thu in Khalkha to suppress a rebellion there. His hordes routed 40,000 Tartars in a single battle fought at Utan Hoço in one day, and killed the Khan. From Kokonor, Gushri Khan moved towards Tibet. He reached the great monastery of Gahdan in the auspicious evening of the 27th day of the month, when he saw a halo of light brightening the horizon at dusk.

During the winter of that year he again visited Kokonor, and from there proceeding to Kham, on the 25th of the 11th month, he annexed the whole of King Beri's dominions to his kingdom. Seeing that Beri would be dangerous to both the Church and the State he put him to death and released the Lamas of the several Buddhist sects who had been thrown into prison by that apostate king of Kham. Gushri then brought under his control all the territories bordering on Jangsathul—the dominions of the king of Jangsa. Then entering Tibet proper with his invincible hordes, he made presents to the great monasteries of the Yellow-Church and proclaimed his authority over the whole country. From Ihasa he marched to Tsang with the major portion of his army. In the year called *water-horse*, on the 8th of the first month, he captured thirteen large *jongs* (forts), including that of Samdub-tse at Shigatse, and overthrew the power of the king of Tsang. On the 25th of the 11th month he threw him into prison. At first, out of respect for the valour of the fallen monarch, he did not order him to be beheaded, but at the representation of the leaders of the Yellow-Church he was found guilty of the highest crime, having had established a rival monastery of the Red-cap Church, called Tashizil, in the immediate vicinity of Tashilhunpo, with the object of ruining

¹ The Western Mongolians who had become Mahomedans were called Gokar on account of their using the white *Pagri*, from *go* head and *kar* white.

the latter. Gushri Khan caused him to be packed in a hide¹ and then threw him into the river. He then commenced the pious work of establishing a University with thirteen colleges, which were called Ling or divisions, at Lhasa, for the education of both the laity and the clergy. Of these thirteen Lings only four have survived, namely, Tan-gyeling, Tshe-chog-Ling, Kündü-Ling and Tshemo-Ling. He brought all the great *Cholka* or Provinces of Tibet under his power. Hearing that the Lamas of Kongpo, were greatly attached to the Red-cap Karmapa Sect, he sent a division of his army there and annexed the eastern provinces to his dominions. He now declared himself the supreme ruler of all Tibet and Mongolia, and sat on the Lion-throne of Potala at Lhasa. On this auspicious occasion he received presents from the border states of India, such as—Bushing (probably Bushahir), Yambu (Nepal), Ngah-ri (Ladak), etc. The Tibetans of the older sects began to regard him as an incarnation of their saint Padma Sambhava. After making the Yellow-Church dominant all over Tibet and Mongolia he shewed tolerance to the followers of the rival sects and patronized learning. Thus Mongolia and Tibet being brought together under the sovereignty of one Royal Umbrella, the religion of Buddha, as reformed by Tsongkhapa, flourished and shone with greater lustre than it had done even during the reformer's time. Under the benign rule of this devout king all classes of people enjoyed peace and prosperity, as if they were living in the ideal age of perfection.

After Gushri Khan's death his son Dayan Khan reigned for fourteen years over Tibet. On his death his son Talai Khan, also called Ratna Gyalpo, succeeded to the throne. Ratna's eldest son named Tanzin Wangyal succeeded him, but he did not reign long, being mysteriously poisoned. During the reigns of these kings the office of the *Desrid* was successively filled by Pon Sonam Choiphel for seventeen years, from the year *Iron-serpent*; by T'hin las Gyatsho for ten years; by Lozang thutob for six years; and by Lozang Jinpa for three years. Then it passed to the layman Sangye Gyatsho who held it for nearly twenty-five years from the year *Earth-sheep*, during which time he completed the building of the nine-storeyed palace on Potala called the Phodang Marpo. In the year *Fire-tiger* there was war between the Khalkha and the Eleuth Mongols. The hierarch of Gahdan, named T'hi-Lodoi Gyatsho, reconciled the belligerents to each other and induced them to make a treaty of peace. On the death of Tanzing Wangyal, Lhabzang, the younger son of Ratna who was exiled, succeeded to the throne. His first act was to wreak vengeance² on the *Desrid*, Sangye Gyatsho, who had been instrumental in bringing about his

¹ This punishment is called *Ko-thümgyab-pa*, i.e., packing the criminal in hide or skin and then throwing him in the deep water of a river. This is the capital punishment that is inflicted on the higher class of criminals in Tibet.

² At this period it was suspected that the Lama authorities of the Yellow-cap Church were intriguing to kill the king (Lhabzang) by exorcism.

banishment. During his exile Lhabzang had collected about 500 Tartar troops. Entering Tibet with them he collected a large army from the 13 *Thikor* of Tibet, besides Kongpo and other provinces and took possession of the throne. In the year *Tree-bird* he killed *Desrid* Sangye Gyatsho. He reigned for nearly thirteen years.

Hearing the news of *Desrid's* violent death, the Khan of Chungar (*Zungaria*), the left branch of the Eleuth Mongols named Hing Thaijé, who was devoted to the Yellow-cap Church, sent presents to the Dalai Lama, and with a view to restore peace and prosperity in the troubled land of the Lamas, sent his generals to invade Tibet with a large army. In the year *Fire-bird* they captured Lhasa, defeating Lhabzang in a battle in which he fell. Thus in 1716 ended the short-lived kingdom founded by Gushri Khan in Tibet. In the year 1717 the Chungar army, after sacking the *Ningma* monasteries of Namgyaling, Dorje Tag, Mindoling, etc., and making the Yellow-cap Church still more predominant all over Tibet, returned to Mongolia.

18. *Sarvajña-mitra*—a *Tāntrika* Buddhist author of *Kāsmira* in the 8th century A.D.—By PROF. SATIS CHANDRA VIDYABHUSANA, M.A.

Among the manuscripts presented to the Asiatic Society of Bengal by Mr. Hodgson, there is a Buddhist Sanskrit work named *Sragdharā-stotra* by *Sarvajña-mitra*. The work derives its name from that of the metre, *viz.*, *Sragdharā*,¹ in which it is written. It is a hymn consisting of 37 stanzas in praise of the *Tāntrika* goddess *Tārā* who is called in Tibetan *Ṣgrol-ma*. There is a Sanskrit commentary on the work, called *Sragdharā-stotra-ṭikā*, by *Jinaraṣita* who was a monk of the great monastery of *Vikramaśilā* and a spiritual guide of a king of the time.

The commentator states that *Sarvajña-mitra*, the author of *Sragdharā-stotra*, was a devout monk of *Kāsmira* and was renowned for his unbounded charity. Having given away everything he possessed, he left the country and wandered abroad as a mendicant. Once while he was proceeding to the kingdom of *Vajramukṣa*, he met on the way a poor old *Brāhmaṇa* who was in a very pressing need of money for the marriage of his daughter. The *Brāhmaṇa*, who was going to the place of *Sarvajña-mitra* himself for help, having learnt that the latter had nothing left except the beggar's bowl and robe, fell into great despair and shed tears. *Sarvajña-mitra*, however, consoled him saying: "Be not sad, I shall give you what you ask for." At that time King *Vājramukṣa* was told by a certain person that all his desires would be fulfilled if he could wash himself sitting on 100 skulls freshly severed from the trunks. The king who had already secured 99 persons completed the number 100 by purchasing *Sarvajña-mitra*, who sold his person for its weight in gold which was given to the poor *Brāhmaṇa*. The 100 victims were in a morning led into the Executioner's Tank by officers of the king. *Sarvajña-mitra* finding no means of escape composed and chanted 37 stanzas in praise of *Āryā Tārā*, whereupon all the victims were miraculously saved and taken to their respective homes. Heaps of gold equal to the weight of the victims remained deposited on the edge of the tank. The king, surprised at the miraculous power of the monk, became a disciple of his.

The story of *Sarvajña-mitra* and a literal Tibetan translation of the *Sragdharā-stotra* are to be found in the *Tangyur*, section *Rgyud*, vol. L.

A similar story about *Sarvajña-mitra* is narrated in the Tibetan work called *Pāgsam-jon-zang* edited by *Rai Sarat Chandra Das*

¹ The *Sragdharā* metre contains twenty-one syllables in each foot broken into three equal parts. In the *Chandomañjarī*, the *Sragdharā* verse is thus scanned:—

— — — — — 0 — — — — 0 0 0 0 0 0 — — — — —

Bahadur, C.I.E. According to this work *Sarvajña-mitra*, though born in Kāsmira, was a student of the monastery at Nālanda in Magadha where he became a great master of sciences. The king to whom he sold his person is called *Vajra-mukūṭa* in the Sanskrit *Sragdharāstotraṭīkā*, while he is called *Saraṇa* in the Tibetan, *Pāgsam-jon-zang*. The story contained in the *Pāgsam-jon-zang* (p. 102) runs thus :—

“ A little bastard child of the King of Kāsmira was carried away by a vulture from the roof of the palace and dropped on the top of the Gandhola (the great central temple) of Nālanda in Magadha. The Pandits of the Vihāra, taking mercy on it, nursed it. As he grew up the child acquired great knowledge and became a scholar. He propitiated the goddess *Āryā Tārā* and thereby acquired great wealth. He gave away all his riches in charity, and when there was nothing left he started on a journey to Southern India. Meeting on the way an old blind Brāhmaṇa who was being led by his son, he inquired where he was going. Being told that the blind Brāhmaṇa who was very poor had started on his distant journey to beg help from *Sarvajña-mitra* of Nālanda, he was overpowered with pity and determined to sell his own body to give gold to the helpless beggar. At this time he learnt that King *Saraṇa*, who at the advice of his wicked spiritual guide had undertaken the performance of a *Yajña* in which 108 human sacrifices were necessary, was in search of one more victim which was wanting to complete the full number. The king was convinced that if he successfully performed the *Yajña* he would attain the longevity equal to the sum of the longevity of 108 souls that would be sacrificed in it. *Sarvajña-mitra* sold himself to the king and paid the gold that he had obtained therefrom to the blind Brāhmaṇa. While waiting one night for death in a dark dungeon he invoked the goddess *Tārā* with the utmost concentration of his mind. When fire blazed up from the piled firewood and all the 108 men were led in chains to the pyre, a heavy shower of rain fell which extinguished the fire within a short time and converted the whole plain where the sacrifice was being performed into a large sheet of water resembling a lake. The king and his ministers hearing that this was due to the mercy of the goddess *Tārā* who was invoked by the victim who had sold himself to save others, now acquired faith in the religion of Buddha and having released all the 108 victims of the unholy sacrifice sent them to their respective homes loaded them with presents. *Sarvajña-mitra* before whom the goddess had miraculously appeared, held fast a corner of her celestial robe and was carried to the land of his birth.”

The same story is related in *Lama Tārānātha's* history of Buddhism (*vide* A. Schiefner, p. 168 ff.).

Neither in the *Sragdharā-stotra* nor in its commentary is there any mention of the date of either of the two works. Dr. Rājendra Lāla Mitra who notices the two works in his *Buddhist Literature of Nepal*, p. 228, says nothing about their dates. The *Rājataranṅiṇī*, the well-known chronicle of Kāsmira, supplies us, however, with some

data to determine the age of Sarvajña-mitra the author of Srag-dharā-stotra. In Book IV, verse 210 of the Rājatarangīni, we find that Bhikṣu Sarvajña-mitra, who appeared as another Jina, resided in Kayyavihāra, which had been built by King Kayya. This Kayya is stated to have been a king of Lāṭa or Central and Southern Guzerat, and was subordinate to King Muktāpīḍa-Lalitāditya of Kāśmīra. As Lalitāditya is generally held to have lived early in the 8th Century A.D., Sarvajña-mitra who resided in Kayyavihāra could not have flourished before that time. As the monastery of Nālanda was destroyed in the 9th century A.D., Sarvajña-mitra, who was educated there, could not have lived after that time. This leads me to suppose that Sarvajña-mitra lived in the middle of the 8th century A.D.

King Vajramukṣa or Sarapa has not yet been identified. Vajramukṣa is perhaps identical with Vajrāditya, son of Lalitāditya, King of Kāśmīra in the 8th Century A.D.

19. *An Analysis of the Laṅkāvatāra Sūtra.*—By PROF. SATIS
CHANDRA VIDYĀBHŪṢAṆA, M.A.

The Laṅkāvatāra Sūtra is an ancient Buddhist Sanskrit work, a manuscript of which was brought from Nepal by Mr. Hodgson nearly eighty years ago. It gives an account of a miraculous visit which Buddha paid to Rāvaṇa, the King of Laṅkā. Though the visit was altogether an imaginary one, the book is very valuable as it gives a copious explanation of the Buddhist metaphysical doctrines as well as an account of several non-Buddhist sects such as the Lokāyata, Sāṅkhya, Vaiśeṣika, Pāśupata, and others. It is one of the nine most sacred books of the Nepalese Buddhists called their Nava-dhamma.¹

A Tibetan version of the Laṅkāvatāra Sūtra is found in the Kangyur, Sect. Mdo, Volume V. In Tibetan it is called *Hphags-pa-laṅ-kar-gsegs-pa-theg-pa-chen-pohi-mdo*, in which it is stated that the Sūtra was translated into Tibetan by order of the Tibetan King Ral-pa-can in the 9th Century A.D. Lo-tsa-wa Ge-long (*Hgoṣ-chog-grub*), who translated the Sūtra in Tibetan, also added to the translation a commentary of a Chinese professor named Wen-hi.²

There are extant three Chinese translations³ of the Laṅkāvatāra Sūtra. The first translation, which is incomplete, was made by Guṇabhadra, 443 A.D., the second by Bodhiruci A.D. 513, and the third by Śikṣānanda A.D. 700-704.

Hwen-thsang, who travelled in Ceylon early in the 7th Century A.D., points out the Malaya mountain as the place where in Buddha, in olden days, sat to deliver the Laṅkāvatāra Sūtra.⁴

The Sūtra was merely known by name to the Pandits of our country from a reference to it in the *Sarvadarśanasamgraha*⁵ of Mādhavācāryya in the 14th Century A.D.

¹ The nine most sacred books of the Nepalese Buddhists are:—

1. *Aṣṭasāhasikā Prajñāparimitā*; 2. *Gaṇḍavyūha*; 3. *Daśabhūmiśvara*; 4. *Samādhirāja Sūtra*; 5. *Laṅkāvatāra Sūtra*; 6. *Saddharmapuṇḍarīka*; 7. *Tathāgataguhyaka*; 8. *Lalitavistara* and 9. *Suvarṇaprabhāsa Sūtra*.

Divine worship is offered to these nine works by the Buddhists of Nepal. Cf. Hodgson's *Illustrations of the Literature and Religion of the Buddhists*, p. 19.

² Vide Csoma de Koros's *Analysis of the Kangyur*, p. 432 (*Asiatic Researches*, Volume XX).

³ Vide Bunyiu Nanjio's *Catalogue of the Chinese Tripitaka*, Nos. 175, 176, 177.

The first Chinese translation consisting of 4 fasciculi, 1 chapter, bears two prefaces by Tsiang O'-chi and Su-shi, of the later Suñ dynasty, A.D. 960-1127. The date of the latter preface corresponds to A.D. 1085. The second Chinese translation consists of 10 fasciculi, 18 chapters. The third Chinese translation consisting of 7 fasciculi, 10 chapters, bears a preface by the Empress Wu-tso-thien, A.D. 684-705, of the T'han dynasty.

⁴ Vide Si-yu-ki, Book XI; Beal's *Buddhist Records of the Western World*, p. 251.

⁵ Mādhavācāryya quotes a passage from the *Laṅkāvatāra Sūtra* saying:—

The work consists of ten *Parivarta* or chapters named respectively as, (1) *Rāvaṇādhyeṣaṇā*, (2) *Sarvadharmasamuccaya*, (3) *Anityatā*, (4) *Abhisamaya*, (5) *Tathāgatānityānityatva*, (6) *Kṣaṇika*, (7) *Nairmāṇika*, (8) *Māṃsabhakṣaṇa*, (9) *Dhāraṇi*, and (10) the tenth chapter which bears no special name.

Throughout the *Laṅkāvatāra Sūtra* the speaker is Buddha himself. The first chapter is addressed to *Rāvaṇa* while the person spoken to in the remaining nine chapters is *Mahāmāti*. *Rāvaṇa*, King of *Laṅkā*, prayed to Buddha for the solution of two questions, *viz.*, (1) what is the distinction between *dharma* and *adharmā*; and (2) how could one pass beyond both *dharma* and *adharmā*. Buddha's answers to these questions form the subject-

“ननुक्तं भगवता सङ्घावतारे—

बुध्या विवेचमानानां स्वभावो नावधार्यते ।

अतो निरभिज्ञाप्याखे निःस्वभावाश्च हेमिताः ॥

(सर्वज्ञानसंपन्न, chapter on बोधदग्धेन) ।

The passage referred to here occurs with a little variation twice in the *Laṅkāvatāra Sūtra* (in Chapter II. p. 50, and Chapter X. p. 115 respectively of the Bengal Asiatic Society's manuscript):—

बुध्या विवेचमानानां स्वभावो नावधार्यते ।

यस्मान् नञ्जाद् अनभिज्ञाप्याखे निःस्वभावाश्च हेमिताः ।

(सङ्घावतार खण्ड, १ परिवर्त, अ. ५०) ।

बुध्या विवेचमानानां स्वभावो नावधार्यते ।

अस्मान् अनभिज्ञाप्याखे निःस्वभावाश्च हेमिताः ॥

(सङ्घावतार खण्ड, १० परिवर्त, अ. ११५) ।

The Tibetan versions of the passages run respectively as follows :—

ज्ञेयस्य क्वचिदपि क्वचित्कस्य च यद ।

अदंष्ट्रिः इदं अज्ञेयं किं रीतिः श्रे ।

देष्टुः देदक्यस्यैदं दुःखे ।

देवेदेष्टुः अदंष्ट्रिः इदं यद ।

(Kangyur, Mdo., Vol. V. Leaf 150, A.S. MSS.)

अदंष्ट्रिः ज्ञेयस्य इयं क्वचित्कस्य च ।

इदं अज्ञेयं दक्यै किं रीदं अज्ञेयं च ।

देष्टुः देदक्यस्यैदं दुःखे ।

देवेदेष्टुः अदंष्ट्रिः इदं यद ।

(Kangyur, Mdo., Vol. V. Leaf. 253, A.S. MSS.)

“Of things that are discerned by intellect no self-existence can be ascertained; therefore they are shown to be inexplicable and essenceless.”

matter of the first chapter. Thereafter one hundred and eight questions were raised by Mahāmāti; Buddha's answers to these are treated in the remaining nine chapters.

Some information about the author of the Laṅkāvatāra Sūtra may be gathered from the following verses occurring in the 10th Chapter of the work :—

माता च मे वसुमतिः पिता विप्रः प्रजापतिः ।
 कात्यायनसगोत्रोऽहं नाम्ना वै विरजो ^१ जिनः ॥
 चम्पायाहं समुत्पन्नः पितापि च पितामहः ^२ ।
 सोमगुप्तेति नाम्नासौ सोमवंशसमुद्भवः ।
 (A.S. MSS. p. 143).

The Tibetan version of the above runs thus :—

ང་ཡི་མ་ནི་ཞོར་ལྷན་ཏེ།
 ཕ་ནི་བྲམ་ཟེ་སླེ་དགའི་བདག།
 ང་ནི་ཀཱ་ཏཱ་ཡ་ནའི་རིགས།
 མིང་ནི་རྒྱལ་མེད་རྒྱལ་བའོ།།
 ཡབ་དང་མེས་དང་ང་བདག་ཀྱང་།
 ཡུལ་ནི་ཙམ་པར་སླེས་བ་སྟེ།
 མཚན་ནི་རྒྱ་བ་སྐབས་ཞེས་བྱ།
 རྒྱ་བའི་རིགས་ལས་དེ་སླེས་སོ།།

(Kangyur, Mdo, Vol. V., Leaf 292-293, A.S. MSS.)

The above passages may be translated thus :—

"My mother is Vasumati, my father the Brahman named Prajāpati; I belong to the same clan as Kātyāyana; my name is Jina, the passionless one, I was born at Campā. Somagupta sprung from the Lunar race is (in fact) my father and he my grandfather too."

¹ The orig. is *विजिनो* which should be *विरजो* for the Tibetan equivalent is རྒྱལ་མེད།

² The meaning of this line is not clear.

In the tenth chapter Buddha in a prophetic style predicts certain future events which help us in determining the approximate date of the work. Thus he says:—

मयि निवृत्ते वर्षश्रते व्यासो वै भारतस्तथा ।
 पाण्डवाः कौरवा नन्दा पश्चात् मौरौ भविष्यति¹ ॥
 मौर्या नन्दाश्च गुप्ताश्च ततो क्षेत्रा नृपाधमाः ।
 क्षेत्रान्ते शस्त्रसंघोभः शस्त्रान्ते च कलेशुभः ॥

(A.S. MSS., Leaf 142.)

The Tibetan version runs thus:—

शुब्दद'दस'सो'सक्रु ।
 शुब्द'सु'द'स'स'दे'स'स'सु ।
 स'स'स'द'स'स'स'स' ।
 द'स'स'स'स'स'स'स'स' ।
 स'स'स'स'स'स'स'स'स' ।
 स'स'स'स'स'स'स'स'स' ।
 स'स'स'स'स'स'स'स'स' ॥

(Kangyur, Mdo, Vol. V., Leaf 292, A.S. MSS.)

The passage may be translated thus:—

“One hundred years after my Nirvāṇa, Vyāsa, the author of the Mahābhārata, will flourish. Then the Pāṇḍavas, Kauravas, Nandas and Mauryyas will arise. The Nandas, Mauryyas, Guptas and the Mlecchas, the vilest of kings, will flourish in succession. The Mleccha rule will be followed by tumult of arms and the tumult will be followed by Kali-yuga.”

Several non-Buddhistic sects are mentioned thus:—

सांख्या वैशेषिका नग्रा विप्राः पाशुपतास्तथा ।
 असत्सङ्घट्टिपतिताः विविक्लार्थविवर्जिताः ॥

(A.S. MSS., Leaf 135.)

¹ The Sanskrit manuscript reads *वामपश्चात् मौरौ* which is evidently wrong. The correct reading has been restored from Tibetan.

[N. S.]

“The Sāṅkhyas, Vaiśeṣikas, Nāgmas, Vipras and Pāsūpatas have taken the extreme views of permanence and non-permanence and are destitute of the discriminated truth.”

The views of Kapila and Kaṇāda are specially discussed on leaf 132.

Not merely in the 10th but in some of the previous chapters too the Naiyāyikas and Tārīkikas are specially referred to. Thus in Chapter II we read :—

नैयायिकाः कथं ब्रूहि भविष्यन्ति अनागताः ।

(A.S. MSS., Leaf 11.)

The Tibetan version runs thus :—

སྡི་བ་རྣམས་ཀྱང་ངེ་ལྟ་བུར།

མ་འོངས་དུས་ན་འགྲུང་བ་གསུངས།

“Tell me how in future times the Naiyāyikas will flourish.”

The very first question asked by Mahāmātī in Chapter II is :—

कथं हि श्रुष्यते तर्कः कथं तर्कः प्रवर्तते ।

(A.S. MSS. Leaf 11.)

The Tibetan version runs thus :—

ངེ་ལྟར་རྟོག་གེ་རྣམས་དག་འགྲུར།

རྟོག་གེ་ཅི་ཡི་སྒྲུང་དུ་འགྲུང།

(Kangyur, Mdo, Vol. V., Leaf 93, A.S. MSS.)

“How is ratiocination corrected and how does it proceed ?”

The following doctrine of the Tārīkikas is specially mentioned :—

कृतकस्य विनाशः स्यात् तार्किकाद्यामयं नयः ।

(A.S. MSS., Chap. X., Leaf 143.)

The Tibetan version runs thus :—

བྱས་ན་རྣམས་པར་འཛིག་པར་འགྲུར།

འདི་ནི་རྟོག་གེ་ཅན་གྱི་ཚུལ།།

“Whatever is *Kṛtaka* (produced) is destructible, this is the view of the Tārkikas.”

According to the peculiar calculation of the Nepalese Buddhists, the *Laṅkāvatāra* consists of 3,000 verses. So it is stated :—

कात्यायनसगोत्रोऽहं शुद्धावासाद् विनिःसृतः ।

देशेऽसि धर्मसत्त्वानां निर्वाणपुरगामिनम् ॥

पौराणिकमिदं धर्ममहमन्ये तथागताः ।

त्रिभिः सहस्रैः सूत्राणां निर्वाणमिति देशयेत् ॥

(A.S. MSS. Leaf 141.)

“I belong to the clan of *Kātyāyana*, I am come from the *Sudhāvāsa* heaven; I teach men religion leading to the City of *Nirvāṇa*. This religion is an old one. I and other *Tathāgatas* teach this religion by means of 3,000 *Sūtras* (verses).”

Kātyāyana to whose clan the author of the *Laṅkāvatāra* belonged, seems to have been the same person who composed the Hindu socio-religious institute called *Kātyāyana Dharma Sūtra*, for *Kātyāyana* is mentioned along with *Yājñavalkya* thus :—

कात्यायनः सूत्रकर्ता याज्ञवल्क्य¹ स्तथैव च ।

(A.S. MSS., Chap. X., Leaf 143.)

The Tibetan version runs thus :—

ཀཏྱལ་ན་མདོ་ཕྱིན་པ།

མཚོན་སྤྱོད་བཟུགས་ཀྱི་སྒྲིབ་ཏུ།

(A.S. MSS., Kangyur, Mdo, Vol. V., Leaf 293.)

“*Kātyāyana* is an author of *Sūtra*, so also is *Yājñavalkya*.”

¹ The Sanskrit manuscript reads *याज्ञवल्क्य*. The reading *याज्ञवल्क्य* is restored from Tibetan.

20. *Tibet under her Last Kings (1434—1642 A.D.)*—By
Rai SARAT CHANDRA DAS, Bahadur, C.I.E.

About eighty years after Tahi Situ Chyañ Chub Gyal-tshan's annexation of Tsang to the Government of Central Tibet, one of the Governors under the Phagmodu Rulers named Rinpûng-Norzang, a native of Tsang, caused a rising of the people against the Phagmo-du authorities, and from the year *tree-hare* of the 7th Cycle, the *Shikha* (towns) of Rinpûng and Samdub-tse (modern Shiga-tse) passed under the authority of Kun-zang Don-dûb-dorje, the two sons of Rinpûng Norzang. They established their power over the whole of Tsang in the year 1434, but nominally acknowledged the supremacy of the Phagmodu Chief. From the year *Earth-tiger* of the 8th Cycle, the Government of Central Tibet had to contend with internal dissensions both in the north and south of Û for which Mi-wang Nehu-dong-pa, the Ruler of Phagmodu, removed his residence to Dansa-thil, the seat of the Phagdu hierarchy. In the year *Iron-ox*, the son of Kunzang named Don-yo-dorje, who was also called Rinpûng Deba Gar-wa, inviting the *Karma* heirarch Choi-tog Gya-tsho of the *Shwa-mar* (Red-Cap sect) invaded Û with ten thousand troops. He drove away Miwang Nehu-dong-pa from his capital, and took possession of it. In this connexion, it is stated, that though the hierarch of Gahdan had twice tried to turn the tide of victory towards the Ruler of Nehu-dong-tse by propitiating some spirits yet the *Karma-pa* hierarch, his adversary, by superior exorcism made Rinpûng-pa victorious at the end. This heralded the triumph of the *Shwa-mar* (Red-Cap Church) over the Yellow-Church. Thereafter, for suppressing the growing power of Sera and Dapûng monasteries, two monasteries of the Red and Black Cap sects of the *Karma-pa* school were erected under Rinpûng-pa's auspices. This was done with a view to make Sera and Dapûng, the two great Yellow-Church monasteries, to die a natural death for want of support either from the State or from the pious. The *Karma-pa* and *Dûg-pa* sects sent troops to overpower some of the smaller Yellow-Church institutions which, thereby, became converted to the Red-Cap Church. Some of the land endowments of Sera and Dapûng were taken away from them, for which reason the breach between the rival schools became wide. From the year *Earth-ox* to that of *Earth-tiger* in the 9th Cycle, the Lamas of Sera and Dapûng were prevented from taking part in the Monlam Chenpo of Lhasa. But since the year *Fire-dog*, Miwang Nehu-dong-pa, the Chief of Nehu-dong-tse recovered his authority to some extent over the province of Û. Again in the year *Fire-bird* (about 1508) during Gedûn Gyatsho's residence at Methog Thang of Gyal, the Digong-pa Lamas brought troops from Kong-po for crushing down the power of the Yellow Church. When they were about to demolish the outer Dsong (fort) of Holkha, the Chief Nangso-Don-yod of Dohdah came with his troops for rescuing it. The Digong-pa

Lamas failing to destroy the Dsong, diverted their attention towards Lüng Shoi, Hod-na, and other places where they succeeded in converting eighteen Gelug-pa (Yellow-Church) institutions into Red-Cap school. In the year *Water-ox* the Yellow-Cap Lamas also sent troops to Kyor-lúng and other places under the *Kahgyud-pa* authorities. In this manner the Lamas of the different sects and schools became involved in civil dissensions. During this period the state of affairs in Tibet resembled the dark days which had followed the succession of the apostate Langdarma to the throne of Tibet.

The Chiefs of Tsang, who held office under the Phagmodu Rulers of Central Tibet, frequently led their troops to Ú to harass the people. They sometimes retired to their own strongholds after defeat, but often quietly annexed parts of their master's territories to their possessions. The Lamas of the Yellow Church struggled for power and to establish their supremacy over Tibet, in which act they met with reverses on account of the powerful help which the Chief of Tsang had given to the Lamas of *Shwa-mar* sects.

In the year 1564, Tshe-wang Dorje, the chief representative of the house of Rinpúng,¹ with his son Padma-Karpo held the fort of Samdub-tse, and having brought the whole of Upper Tsang under his power, declared himself Tsang-toi Gyalpo, the King of Upper Tsang. In the year 1569 (*Iron-horse* of the 10th Cycle) the authorities of Digong fought with those of the monastery of Tag-lúng. In the year *Water-serpent*, there was a rebellion at Kyid-Shoi against the Phagmodu authorities. The Dalai Lama, Gedun Gyatsho, interceding in the affairs brought upon an agreement between the ruler and the ruled. Again afterwards, in the year *Tree-hog* (1574) Rinpúng-pa brought his troops to Kyid-Shoi for creating disturbances, but they were compelled to withdraw from there after they had caused some injury to the people. In the year *Iron-serpent* (1580) internal dissensions again raged in Digong. On Dalai Yontan Gyatsho's return from Mongolia, the *Shwa-mar* hierarch, Nag-wang Choitag, complimented him with a letter written in verse; but some misapprehension having arisen as to its concealed meaning, Rab Byampa Geleg Lhündüb and others sent a discourteous reply to it couched in terms which were interpreted as conveying insult to the hierarch. This incident, unfortunately, raked up greater bitterness in the strained relations between the two rival Buddhist Churches of Tibet.

The King of Upper Tsang, with the help of a few petty chiefs of the south and north, incited the Na-wa Rong people to rebellion, in quelling which, the resources of the Government of Central Tibet were greatly exhausted. Taking advantage of this disturbance he asserted his independence.

In the year *Tree-serpent* heading the troops of the Red and Black-cap Lamas of the *Karma-pa* School, he attacked the military

¹ Rinpúng or Rinchenpuñg, a small town in the Tsang Rong district. It contained a huge image of Maitreya famous under the name of Rong-Cham-Chen.

encampment of Deba Kyid-Shoi and killed a large number of Dûngkhors (civil officers) of the Government. On this occasion the *Karma-pa* Lamas became exultant and made a metrical rejoinder to the Dalai Lama's reply by placing their letter before the image of Buddha in the Cathedral of Lhasa. This step, which was meant to be an appeal to show that the *Shwa-mar* hierarch's welcome to the Dalai Lama was sincere, produced disastrous effects. It induced the Yellow-Cap Lamas to invite the help of the Mongolian hordes. About the time that Sonam Namgyal was Deba of Kyi-Shoi, several thousands of Tartar horsemen had already come to Tibet and encamped in the neighbourhood of Lhasa. In the year *Iron-dragon* (1609) the *Karma* hierarch named Phuntshog Namgyal, with his son *Karma* Tan Kyong Wang-po, led the Tsang army to Û, but finding that the Mongol horsemen, that had come to protect the Yellow Church, were waiting for an action, out of fear they quietly withdrew. In the year *Water-mouse* (1611) he brought the whole of Tsang including Gyal-Khar-tse (modern Gyang-tse) and Byang (northernmost province of Tsang) under his power, and became known as Tsang Gyal, i.e., King of Tsang. This was the first instance in which a *Karma* hierarch had marched at the head of a victorious army, having betaken himself to worldly life, and become lord temporal and spiritual.

Later on, again invading Û with the Tsang army, he took possession of *Nêhu* Dong and all the lands, and some of the smaller monasteries of Û. In the seventh month of the year *Earth-hare* (1617), resolving to entirely demolish the Yellow-Cap Church he besieged Sera and Dapûng and killed many thousand monks. He expelled the Yellow-Cap Lamas from Lhasa. In their discomfiture the Lamas took shelter at Tag-lûng. In the year 1619, that is, shortly after the humiliation of the Yellow-Cap Church and its patron *Miwang Nêhu* Dong-pa, the Mongolian army arrived and met the Tsang army first at *Kyang-thang-gang* near Lhasa, and ultimately at *Tsang-Gyadthang-gang* and completely routed them. In the seige of Lhasa, which followed this success of the friends of the Yellow-Church, about 100,000 Tsang men were captured. They all would have been killed had not the Panchen Rinpoche (Tashi Lama of Tsang) timely interceded and procured their release. The monasteries of *Sang-ñag* Khar and others, besides many Lamas of the Yellow Church that had been taken over to the Red-Cap Church, were restored in 1620 to the Yellow-Church, which got back its lost territorial endowments as well. The king of Tsang and his friend the valiant *Karma* hierarch failing in their military enterprize in Tibet, sought for help from the Mongolian Chiefs who were devoted to the Red-Cap Church. It took them nearly twenty years to consolidate their power in Tibet after the retirement of the Mongolian hordes from Tibet. When they had again grown powerful they began persecuting the Yellow-Church with greater animosity than before.

21. *Note on a Decomposition Product of a Peculiar Variety of Bundelkhand Gneiss.*—By C. A. SILBERRAD, B.A., B.Sc., I.C.S.

During the construction of the Ken Canal, my attention was called by the Executive Engineer in charge of the work, to a peculiar soft, white, clayey material found in the low hill on and around which the village of Deora-Bhāpatpūr in the Ajaigarh State is built. The hill is one of the low gneissic hills characteristic of this part of Bundelkhand (*vide* Medlicott and Blandford's 'Geology of India,' Volume I, page 11, *et. seq.*), but appears to be of a somewhat unusual variety of gneiss and one more than usually liable to decomposition. At several places on the sides of this hill, all about half-way up, small pits have been dug into it, and a white clayey material found, which is locally used as "white wash." The same material has been found about $1\frac{1}{2}$ miles south of this in the course of excavating a deep cutting (up to 50 feet deep) for the canal. Both positions are within three or four miles of the head works of the canal, and some ten miles west by south of Ajaigarh town; they are about eight miles north-west from the Vindhyan scarp.

I accordingly obtained some samples and sent them to my brother, Dr. O. J. Silberrad, Ph.D., Research Chemist to the War Office Explosives Committee, who examined them, and through the kindness of a friend had them tested at a pottery as regards the suitability of the clay for the manufacture of earthenware or other pottery. To them I am indebted for all the following information:—

The report is subjoined. Beside the figures showing the results of the chemical analysis, I have added those of Pinite as given in Dana's Mineralogy, which appears to be a somewhat similar material. The occurrence of Titanic Acid in the clay is, however, of interest.

"Report on Clay from Deora-Bhāpatpūr.

Analysis of clay is as follows:—

		Clay from Deora-Bhapatpur.	Pinite.
Silica	...	SiO ₂ 44·40%	49·11
Alumina	...	Al ₂ O ₃ 30·47	29·00
Lime	...	CaO .61	.51
Magnesia	...	MgO 2·89	1·07
Ferric Oxide	...	Fe ₂ O ₃ 6·17	9·13
Potash	...	K ₂ O 8·05	6·84
Soda	...	NaO ₂ ...	.42
Titanic Acid	...	TiO ₂ 0·54	...
Combined water and organic matter	...	6·14	4·01
Moisture	...	1·10	
Phosphoric Acid	...	P ₂ O ₅ .091	...
		<hr/> 100·461	<hr/> 100·09

The clay was tested for its capacity of forming a china or earthenware in the following manner :—

1. About 20 grams of the dry clay was mixed with sufficient water to give a plastic clay, which was moulded into the form of a triangular pyramid. This was dried at 100°, then baked for 3½ hours in a gas muffle, at a temperature of 890°. The resulting mass was pink in colour, easily broken, possessed little cohesion, was soft and friable.

2. Another portion of the clay was mixed with calcium carbonate, in proportion to give a mixture containing 2% added calcium carbonate (19.6 grams clay, .4 grams CaCO₃). This was moistened, kneaded, and the resulting plastic clay formed into a pyramid as before. This was dried at 100°, and heated in a blast muffle, together with the pyramid used in the first experiment (made from clay alone). Pyramids charged into cold muffle and muffle lit at 9-10 A.M., on 8th November, 1904.

Temperature at 11-10 A.M.	...	1155°
" " 12 noon	...	940°
" " 12-30 P.M.	...	1150°
" " 1 P.M.	...	1300°

Heating was then discontinued as one of the pyramids was seen to be sinking, the result of incipient fusion. The muffle was turned out at 1 P.M. Pyramids drawn at 2-15 P.M., and broken.

Clay alone.—Pyramid had sunk considerably. Was smooth, glazed, dirty brown on the outside. The fracture was highly porous and cindery. Heated to a temperature as high as this (1300°), the clay would not be of any use as earthenware.

Clay + 2% CaCO₃.—The surface of the pyramid was smoother and more highly glazed than that of pyramid just described, and the mass had sunk more, indicating that the clay mixed with 2% CaCO₃ is more fusible than the clay alone. The colour of the exterior was dark brown. A fracture showed a porous, spongy layer under the surface, then a more compact, blue-black central mass. Useless as earthenware.

3. The earth was made into a plastic clay as before, without any admixture (except water) and formed into a pyramid, and a small dish. These were dried at 100°, charged into cold muffle, and muffle lit at 9-15 A.M., on 9th November, 1904.

Temperature at 11	A.M.	...	1030°
" " 11-30	"	...	930°
" " 11-50	"	...	1050°
" " 12-25	P.M.	...	1060°
" " 1	"	...	1090°
" " 1-30	"	...	1130°
" " 2-15	"	...	980°
" " 3	"	...	950°
" " 3-30	"	...	1130°
" " 4-15	"	...	1070°

Temperature at	5	A.M.	...	1090°
"	5-25	"	...	1050°

Muffle turned out at 5-30 P.M. Pieces drawn at 9 A.M. on 10th November, 1904. They had not altered in shape, and showed no signs of fusion. They were glazed on the surface, dark brown in colour. Were dense and hard, giving a metallic ring when struck. The fracture showed the pieces to be solid, not porous at all, and was somewhat glassy. The pieces were strong and required a sharp blow to break them.

4. Pyramids were made in the manner previously described, containing respectively 5% CaCO_3 and 10% CaCO_3 (19 grams clay + 1 gram CaCO_3 , and 18 grams clay + grams CaCO_3). They were dried at 100°, charged into cold muffle, and muffle lit at 9-20 A.M., 9th November, 1904.

Temperature at	11	A.M.	...	930°
"	11-30	"	...	890°
"	11-50	"	...	910°
"	12-25	P.M.	...	920°
"	1	"	...	930°
"	1-30	"	...	930°
"	2-15	"	...	940°
"	3	"	...	930°
"	3-30	"	...	930°
"	4-15	"	...	900°
"	5	"	...	870°
"	5-25	"	...	860°

Muffle turned out at 5-30 P.M. Pieces drawn at 9 A.M., 10th November, 1904.

Identical results were given by both pyramids. They were pink, not glazed, of only moderate hardness, easily broken, giving a dull fracture. Apparently not strongly enough heated to give a satisfactory earthenware.

The two pyramids were recharged into cold muffle, and muffle lit, at 9-10 A.M., 10th November, 1904. The temperatures were taken with a thermo-couple (all the previous temperatures having been taken in this way) and also with the Wanner Optical pyrometer. The corresponding readings are given below.

	Thermo-couple.	Wanner-Pyrometer.
Temperature at 11 A.M.	... 1040°	...
" 11-30 A.M.	... 970°	...
" 12 noon	... 1090°-1100°	1087°
	Thermo-couple.	Wanner-Pyrometer.
Temperature at 12-30 P.M.	... 1110°-1130°	1132°
" 1 P.M.	... 1090°-1100°	1108°
" 2-15 P.M.	... 1040°-1050°	1052°

When two thermo-couple temperatures are given for the same time, they refer to different points in the muffle.

Muffle turned out at 2-20 P.M. Pieces drawn at 3 P.M.

Pyramid with 5% CaCO_3 .—This was a dark, coloured, hard, dense mass, glazed on the surface though not so much as the pyramid made from the clay alone, and somewhat lighter in colour. No change of shape could be detected, and there were no signs of fusion. The fracture was glassy in parts, the rest being dull and stony, and was blue to brownish-black.

Pyramid with 10% CaCO_3 .—This was much lighter in colour than the two previous pieces, was light brown, dull, not glazed. Was not so hard or dense as the Pyramid with 5% CaCO_3 . The piece was easily broken, giving a dull, sandy fracture, and showing the interior to be fairly compact. The colour of the fracture was a brownish pink. The pyramid had not sunk at all, and showed no signs of fusion.

The best results as regards the making of earthenware appear to be given by employing the clay alone, without any admixture of lime. The addition of lime in small proportions reduces the melting point. The hardness and density of the ware depend on the temperature to which it has been heated. If that temperature has been too high, the upper parts of the pieces are porous and cindery, this probably being due to the liquation of a fusible silicate. The colour of the ware is necessarily dark, owing to the high percentage of oxide of iron in the clay.

It does not appear to be possible to obtain good earthenware from the clay. Experiment III gave the best pieces.

The clay is evidently not Fuller's earth.

When mixed with water, with, or without additional lime, a highly plastic clay is obtained."

In addition to the experiments recorded in the above report, the clay was fired in an ordinary earthenware kiln, but it refused to bind and simply dried to a porous friable mass differing very little from the product obtained by merely moistening it and letting it dry at an ordinary temperature. Heated in an electric furnace to a temperature of about 2900°C the clay melted to fluid which could be easily poured or cast.

From the foregoing it will be seen that the clay is little likely to be of any use except that to which the villagers have put it from time immemorial, *i.e.*, for whitewashing their houses.

22. *Additions to the Collection of Oriental Snakes in the Indian Museum.—Part 2.—Specimens from the Andamans and Nicobars.—*By NELSON ANNANDALE, B.A., D.Sc., *Deputy Superintendent of the Indian Museum.*

All the snakes recorded or described in this communication are from the Andamans or the Nicobars. With one exception, they have been collected and presented to the Museum either by Major A. R. Anderson, I.M.S., or by Mr. C. G. Rogers. The one exception is the type of a new Sea-Snake, which was taken by the Indian Marine Survey. Mr. G. A. Boulenger has kindly examined several of the other specimens. I am much indebted to Major Anderson for several letters on the snakes of the islands. I have added a revised list of the species known to occur in the two archipelagoes or represented from them in the Indian Museum, having re-examined the specimens recorded by Mr. W. L. Sclater in all cases in which there was any doubt.

TYPHLOPIDÆ.

TYPHLOPS BRAMINUS (Daud.)

This is evidently the common species in the Andamans, or at any rate in the neighbourhood of Port Blair. Major Anderson has lately sent us twenty-four very dark specimens from that station.

The type of *T. andamanensis* still remains unique, if it is in existence. I have not been able to trace its history. The Museum does not possess examples of *T. outessi*, described from the Cocos group.

COLUBRIDÆ.

LYCODON AULICUS (Linn.)

We have lately received several specimens of this common Indian species both from the Andamans and the Nicobars. One from the Nicobars belongs to var. E of Boulenger's "Catalogue;" those from the Andamans to var. C, a common form in Ceylon.

OLIGODON WOODMASONI (Scl.)

Simotes woodmasoni, *Sclater, J.A.S.B.*, (2) LX, p. 235; *List. Snakes*, p. 24.

A young specimen, lately received from Major Anderson, has been submitted to Mr. Boulenger, who regards it as belonging to the genus *Oligodon*. I have compared it with Mr. Sclater's types, with which it is identical. Mr. Boulenger notes that it is nearly related to *O. trilineatus*, a Malayan species.

COLUBER MELANURUS, Schleg.

A specimen from the Andamans has the entire dorsal surface of the head and body of an almost uniform dark plumbaceous

grey. The markings on the side of the head and on the neck are, however, quite distinct, and the individual is otherwise normal. We have in the Museum a similar specimen from Borneo.

DENDROPHIS PICTUS (Gmel.)

A specimen has been sent by Mr. Rogers from Henry Lawrence Island, Andamans. The species appears to be common all over the Andamans and Nicobars. Some of the Andaman specimens, are very dark in colour, but this character does not seem to be constant.

TROPIDONOTUS PISCATOR (Schneid.)

We have lately received a specimen from the South Andamans, while we had already a number from several localities in the archipelago. I have not been able to find any record of the occurrence of this common Indian species in the Nicobars.

TROPIDONOTUS NICOBARENSIS, Scl.

T. nicobaricus Sclater, *J.A.S.B.*, LX (2), 1891, pp. 231, 250.

T. nicobarensis, *id.*, *ibid.*, p. 241.

T. nicobariensis, Boulenger, *Cat. Snakes*; p. 192.

The type of this species still remains unique. I have examined it very carefully, dissecting out the maxillary on one side, and have no doubt that Mr. Sclater was right as to its generic identification. The maxillary teeth, 24 in number, increase slightly from before backwards, and show no signs of being stunted posteriorly; but the division of the anal plate appears to me to have been traumatic. If the species is identical with Cope's *Prymniodon*, the latter must have been founded on an individual injured or abnormal as to its dentition. This seems possible, as the type was otherwise deficient.

DIPSADOMORPHUS CEYLONENSIS, Gthr.

Mr. Rogers has presented two specimens from the South Andamans. The snakes from Assam and the Andamans identified by Mr. Sclater as *Dipsas fusca*, are young individuals of this species.

DISTIRA ANDAMANICA, sp. nov.

Head moderate, hardly separated from the neck; the greatest depth of the latter half that of the body; body deep, strongly compressed; tail short. Rostral much broader than deep; nasals shorter than frontal, three times as long as the suture between the præfrontals; frontal not much longer than broad, shorter than distance from rostral, much shorter than parietals; one præocular, very large; 3 postoculars; no loreal; 2 large, superimposed anterior temporals; 7 upper labials, 3rd and 4th entering eye; two pairs of sub-equal chin shields, the posterior pair separated

from one another by two rows of scales. Head scales smooth for the most part, but with a few minute, irregularly placed pits. Eyes large and prominent. Body scales imbricate, but feebly so or not at all posteriorly, with a very short keel or a tubercle; 31 scales round neck, 39 round body; ventrals distinct, bituberculate, with a central longitudinal groove, occasionally divided, 238 (in the type) in number. *Colour*—pale-yellow on sides and belly, with about 40 large, black rhomboidal marks on the dorsal surface. These are not in contact either above or below, reaching about half way down the body on the neck and tail and almost to the ventral margin of the tail. Throat and chin darker yellow, the former feebly irrorated with black. Dorsal surface of the head pale-green as far backwards as the posterior border of the præfrontals and of the 2nd supraocular, black posteriorly

Measurements of type—

Total length 30 inches.
 Length of tail 2 $\frac{3}{4}$ "

A single female from the Andamans. Judging from its bold coloration, this specimen is immature. In many respects the species resembles *Enhybris curtus*, from which it may be distinguished superficially by the possession of unbroken parietals and distinct chin shields. It has six grooved teeth posterior to the large poison fangs in each maxilla. Its nearest ally is *D. lapimidoides*.

SNAKES OF THE ANDAMANS AND NICOBARS.

NAME OF SNAKE.	Andamans.	Nicobars.
<i>Typhlops braminus</i>§|| (Dand.)	x	—
<i>Typhlops oatesii</i> ,* Blgr.	x	—
" <i>andamanensis</i> ,* Stol.	x	—
<i>Python reticulatus</i>,§| Schneid.	—	x
<i>Lycodon aulicus</i>§|| (Linn.)	x	x
<i>Polydorphis sagittarius</i>§|| (Cant.)	—	x
" <i>bistrigatus</i>|| (Gthr.)	—	x
<i>Ablabes nicobarensis</i> ,* Stol.	—	x
<i>Oligodon sublineatus</i> , D. & B.	—	x
" <i>woodmasoni</i> * (Scl.)	x	x
<i>Zamenis mucosus</i>§|| (Linn.)	x	—
<i>Coluber porphyraceus</i>, §| Cant.	x	—
" <i>melanurus</i> §, (Schleg.)	x	x
" <i>oxycephalus</i>,§| Boie	x	x
<i>Dendrophis pictus</i>§|| (Gmel.)	x	x
<i>Tropidonotus stolidus</i>§|| (Linn.)	—	x
" <i>piscator</i>§| (Schneid.)	x	—
" <i>nicobarensis</i> ,* Scl.	—	x
<i>Chrysydrus granulatus</i> §|| (Schneid.)	x	—
<i>Dipsadomorphus hexagonatus</i> (Blyth)	x	—

NAME OF SNAKE.	Andamans.	Nicobars.
<i>Dipsadomorphus ceylonensis</i> , ¹ Gthr. ...	x	—
<i>Chrysopelea ornata</i> § ² (Shaw) ...	(Narcondam)	—
<i>Cerberus rhynchops</i>§|| (Schneid.) ...	x	x
<i>Fordonia leucobalia</i> §|| (Schleg.) ...	—	x
<i>Bungarus cæruleus</i> §|| (Schneid.) ...	x	—
<i>Naia tripudians</i>,§|| Merr. ...	x	—
„ <i>bungarus</i>,§|| Schleg. ...	x	—
<i>Platurus colubrinus</i>§|| (Schneid.) ...	x	x
<i>Distira andamanica</i> ,* Annand. ...	x	—
<i>Hydrus platurus</i>§|| (Linn.) ...	—	x
<i>Amblycephalus monticola</i>|| (Cant.) ...	—	x
<i>Laohesis cantoris</i> * (Blyth)...	x	x
„ <i>gramineus</i>§|| (Shaw) ...	x	x
„ <i>purpureomaculatus</i>§|| (Gray) ...	x	x

In the above list, the names of those snakes which are not represented in the Indian Museum by specimens either from the Andamans or from the Nicobars are printed in italics. In the first column a * indicates that a species is peculiar to the Andamans, the Nicobars or both archipelagoes; a § that it has been recorded from the Malay Peninsula south of the Isthmus of Kra; a || that it is known from Assam or Burma. In the other columns, a x shows that a species is known to occur, a — that specimens have not been taken.

It will be seen from this list that the Ophidian fauna of the islands has close affinities with that of Burma and Malaya, while there is possibly a less obvious connection with Ceylon. So far as we know, three species are peculiar to the Andamans, two to the Nicobars, and two to the Andamans and Nicobars together; but our knowledge is still extremely limited, especially as regards the smaller snakes of the Nicobars.

¹ *Dipsas fusca* (Gray) apud Sclater, *List Snakes*, p. 47.

² Major Anderson has taken a specimen (var. A) on Narcondam.

23. *History of Nyāyaśāstra from Japanese Sources.*—By
MAHĀMAHOPĀDHYĀYA HARAPRASĀD SHĀSTRĪ.

The bibliography of Nyāyaśāstra of the Orthodox Hindus is a very short one. It consists of:—

- (1) The Sūtras attributed to Gautama or Akṣapāda.
- (2) Bhāṣya attributed to Vātsyāyana.
- (3) Vārtika by Uddyotakara.
- (4) Tātparyatikā by Vācaspati.
- (5) Parīśuddhi by Udayana.

But the bibliography of the Buddhist Nyāyaśāstra, as known in China and Japan, is a long list. It attributes the first inception of the Nyāyaśāstra to Shok-mok or Mok-shok which, transliterated into Sanskrit would be Akṣapāda.

The second author who treated of Nyāya is said to be Buddha himself. The third is Rynju, who is said to have preached the Mahāyāna doctrines of Buddhism with great success. His Hohben-shin-ron is one of the polemical works against heretics. It contains one volume on logic. The fourth is Mirok (Maitreya). The fifth Muchak (Asanga), Mirok's disciple. Muchak's younger brother Seish (Vasubandhu) wrote three books on Logic—Ronki, Ron-shi-ki, and Ron-shin. After Vasubandhu, came Maha Diñ-nāga and his disciple Saṅkarasvāmi, whose works were translated into Chinese, by the great Hienth Sang. Hienth Sang had two great disciples—Kwei-ke in China, and Doh-Soh in Japan. Kwei-ke's "Great commentary" is the standard work on Nyāya in China and Doh-Soh is the first promulgator of Buddhist doctrines and Nyāya Śāstra in Japan. Since then there had been many distinguished teachers of Nyāya both in China and in Japan, and up to the present day Diñ-nāga has a firm hold on the learned people both in China and Japan. The European system of logic is a very recent introduction in Japan, where Diñ-nāga is still studied.

In the two paragraphs given above, I have tried to give the bibliography of Brahmanic and Buddhist logic of ancient India. Both attribute the invention of the science to one person, namely, Akṣapāda. The only clue given about this personage's chronology is that it was before Buddha. But no clue of his time can be found in Brahminical works. Mr. Justice Pargiter tells me that there is no such person as Akṣapāda mentioned in the Mahābhārata, which was in a nascent condition about the time of Buddha's birth. The Chinese attribute to him two things, namely, "Nine Reasons" and "Fourteen Fallacies," while the Hindus attribute to him the entire body of Sūtras divided into five Adhyāyas, ten lectures, eighty-four topics, five hundred and twenty-eight sūtras, seventeen hundred and ninety-six words, eight thousand three hundred and eighty-five letters. It may be said, in passing, that the Chinese people are doubtful about the "Nine-Reasons" being attributed to Akṣapāda. It may also be remarked that in the

whole body of Sūtras, there is nothing which corresponds to the "Nine Reasons" and "Fourteen Fallacies," which, we know from Chinese sources, and which even *Diṅ-nāga* is said to have attributed to Soc-mock. An examination of the "Nine Reasons" reveals the fact, that it is historically prior to the invention of syllogism. It means an effort of the human mind to exhaust all possible forms of the relation between, what is now called the Major Term and the Middle Term of a syllogism. And such an examination must precede the formulation of syllogism. In what light the later writers have seen this examination, and what conclusions may be drawn from it, need not trouble us here. Suffice it for a historical student to know, that this early effort is attributed to Soc-mock, universally known as the first writer on Nyāya. The theory of "Fourteen Fallacies" too, in their crude and undeveloped shape, shows signs of greater antiquity than the Nyāya Sūtras.

These two theories of Akṣapāda seem to have been the common property of Indian pandits before Buddha's time, as Buddha did not scruple to take advantage of these.

The "Nyāya Sūtras," as we have them, seems to be a much later production. Haribhadra, a Jain scholar of the 6th Century A.D., says that it is a sectarian work; that the sect, which either composed it or adhered to it, was a Saiva sect. Now a Saiva or Mahesvar sect existed long before Buddha. Soc-mock and the eighteen gurus of the sect, Nakulisha and others, might have belonged to this sect. That the Sūtras were not composed by Akṣapāda appears to be almost certain. But it bears his name. How to explain this fact? The only explanation is that it belonged to that sect, of which he was thought to be one of the earliest representatives. I am not sure if the work "Nyāyasūtra" had not gone through several redactions before it assumed its present shape. But it is pretty sure that from the time of Soc-mock to the period when the Nyāyasūtras were reduced to their present form, India was full of polemical writings, much of which has perished.

Though we know nothing from Brahmanical sources of the process of the development of Nyāya, we know some stages of this development from the Buddhists. Nāgārjuna and Maitreya wrote on Nyāya. In fact one of the volumes, I believe, the fifteenth of the great polemical work by Nāgārjuna on *Upāyakaṣālyā* is devoted to the exposition of Nyāya. Maitreya, Asanga and Vasubandhu—all wrote on Nyāya. Then came the great *Diṅ-nāga*, the disciple of Asanga, whom the Japanese place between 400 to 500 A.D., and Kern between 520 and 600.

But in the meanwhile on the Brahminical side the Sūtra has been reduced to its present shape and a Bhāṣya has been composed when, nobody can say. If am permitted to hazard a conjecture, both the Sūtra and Bhāṣya came after the development of the Mahāyāna School, i.e., both came after Nāgārjuna and Aryadeva, say in the 2nd Century A.D. The Bhāṣyākara, Vātsyāyana, though he does not even mention the Buddhists or even any Buddhist writers, pointedly refutes all the Mahāyānists doctrines of

Transitoriness, of Void, of Individuality, and so on. Sāvāra, the Bhāṣyakāra of Mīmāṃsā, was liberal enough to speak of refuting the Mahāyānic theory that the whole is merely a collection of parts and not in any way different from them. But Vatsāyana is not so liberal. He would not name the Buddhists. There is another Vātsyāyana, however, who flourished about this time. He may be identical with or a relation of, or at least, have belonged to the same gotra with the Nyāya Bhāṣyakāra," on the supposition that families and clans rise into importance under one political circumstance and then disappear from history, both Vātsāyanas may be said to have belonged to the same epoch. That Vātsyāyana is the celebrated writer on Eratics. He mentions some scandals about the Sātavāhanas who flourished by the middle of the 2nd Century A.D. And the geographical information gleaned from his book cannot refer to a period later than the rise of the Gupta family.

We glean one historical information from the Brahmanical sources, namely, that Diṅ-nāga severely criticised the Bhāṣyakāra Vātsyāyana, and that the Vārtikakāra, who comments upon the Bhāṣya, defends Vātsyāyana's work against Diṅ-nāga.

The modern Hindu idea is that the Buddhists believed in two of the *pramānas* only, namely, *Pratyakṣa* and *anūmana*, i.e., perception and inference. But this is not a fact, so far as early Buddhism and even early Mahāyānism are concerned. For we know distinctly from Chinese and Japanese sources that Analogy and Authority were great polemical instruments in the hands of the early Buddhists, i.e., that all early Buddhists from Buddha to Vasubandhu were indebted to Akṣapāda for their *pramāṇas* or polemical instruments of right knowledge. Maitreya discarded Analogy, and Diṅ-nāga discarded Authority, and made Nyāya pure logic, in the English sense of the term.

The followers of Akṣapāda are sometimes called Yogins, and Yaugas, and the Buddhist tradition is that Mirock (Maitreya) introduced Yoga in the system of discriminating true knowledge from false (i.e., the system of Akṣapāda), some form of Yoga. And we find that at the second lecture, fourth chapter, of the Nyāya Sūtras, there is a long section devoted to Yoga, and that Yoga is of a peculiar character. How the section on Yoga was adopted into the Nyāyaśāstra, it is difficult to say, because Yoga does not belong to the sixteen topics which Akṣapāda, in the first sūtra, promises to expatiate upon. Whether properly or improperly introduced, it forms a part of Hindu Nyāyaśāstra and also of Buddhist Nyāyaśāstra. The Buddhists say that Mirock introduced it, but the Hindus cannot say who introduced it.

I reserve the result of my examination of the Nyāyaśāstras for the second instalment of this paper; and I conclude this instalment with the remark that though Diṅ-nāga and the Buddhist system of Nyāyaśāstra is almost completely lost in India, so much so, that the discovery of a Tibetan translation of one of Diṅ-nāga's works, was regarded by scholars as a matter of congratulation, it is still studied and commented upon in China, Japan, Corea,

and Mongolia. In Japan only, it has a rival in the European system. But I have been assured that the rivalry has only strengthened the position of the Hindu system. While the colleges study the European system, the monasteries study the ancient system with great zeal.

24. *Notes concerning the People of Mungeli Tahsil, Bilaspore District.*
—By Rev. E. M. GORDON (continued from the *Journal of the Asiatic Society of Bengal, Vol. LXXIII. Part 3, No. 1, 1904*).
[With one plate.] Communicated by the *Anthropological Secretary.*

B. 38. *The Measuring of Grain.*—It is a never-failing practice when a man stops measuring for him to throw a handful of grain back into the measure. On innumerable occasions, for many years, I have seen grain being measured and not once has this act been omitted or forgotten. It is considered lucky for the measure to be never empty. Much the same idea probably underlies the practice of never sweeping out the granary. This would be considered tantamount to sweeping out prosperity.

39. *Sowing Mango Seeds.*—There is a prejudice against the sowing of seeds from mangoes which have been eaten. The fruit of trees grown from such seeds would be considered impure. They would be called *jhuttā*, i.e., false or impure. This is an adjective applied to food left over on one's plate after eating.

40. *Respect paid to Cattle which have died.*—I once noticed a few clods of earth placed on the carcass of a cow which was lying on the outskirts of the village. On inquiring as to why those clods were placed there, I was told that the owner of "a beast of burden" or other domesticated animal that has died will with due respect place a few of clods of earth on the carcass and consider that this act has taken the place of a formal burial. The carcass is then taken by the leather workers, who remove the hide, or it is thrown away at a distance to be devoured by vultures.

41. *Granaries causing Dumbness.*—I was once questioning a father regarding his child and remarked that it was late in speaking. His reply was that the child had been placed on a granary, and this was assigned as the reason for the delay in its acquiring the power of speech.

42. *The Cause of prolonged Pregnancy.*—A woman came to the Mission Hospital in Mungeli, and stated that for eleven months she had been pregnant and yet there were no signs of the approach of the expected event. In conversation the doctor learnt that there is a belief amongst the women that if one who is pregnant should step across a string by which a horse is tied, her term of pregnancy will be prolonged and she will take the term required by a mare before delivery. In order to remove the evil consequences of having crossed the rope of a horse, the woman in question must take a quantity of grain in her *sāri* and present the grain to the horse which has affected her. The horse having eaten of the grain she will be relieved of the malign influence.

43. *Wedding the Fields.*—There is a practice in connection with the sowing of fields, which I mention because of the desire of folklorists to have on record every insignificant item which is apparently of no consequence to the layman and yet may be fraught with much meaning to the specialist. After sowing the cold-weather crops, such as wheat, gram, etc., it is customary to

take the plough around the field and sow in a circular form in several rows. This may be for the purpose of covering the ground which had not been sown; but it is interesting to note that the farmers call this final sowing *bihāud*, to wed or marry. Going around the field in a circle may be associated with the circumvention of the marriage pole.

44. *The Milk Woman on the Plough.*—In sowing the cold-weather crops, the plough invariably has a mass of damp earth placed on it at the point where the handle of the plough meets the tongue. This is said to assist the plough to go deep down into the soil. But why should it be called the “milk woman”—the *Rautain*? The farmers are always greatly amused when I ask them why they call the lump of earth the *Rautain*; the term is so familiar to them that they have never asked themselves the question as to where the connection comes in with the “milk woman.”

45. *A Possible Explanation of the Preceding.*—Since writing the two preceding notes I have been reading *Hiawatha*. In the section entitled “Blessing the Cornfields,” I find the following lines. These lines are given without note or comment and the reader must judge for himself as to whether there is any connection¹ between the practice they refer to and the practices described in notes 43 and 44.

“Once when all the maize was planted,
 “Hiawatha wise and thoughtful,
 “Spake and said to Minnehaha,
 “To his wife the Laughing Water.
 “You shall bless to-night the cornfields,
 “Draw a magic circle round them.
 “To protect them from destruction
 “Blast of mildew, blight of insect.
 “In the night when all is silence,
 “In the night, when all is darkness,
 “Rise up from your bed in silence
 “Lay aside your garments wholly
 “Walk around the fields you planted
 “Round the borders of the cornfields
 “Covered by your tresses only.
 “Robed with darkness as a garment
 “From her bed rose Laughing Water.
 “Laid aside her garments wholly,
 “And with darkness clothed and guarded
 “Unashamed and unaffrighted,
 “Drew the sacred magic circle,
 “Of her footprints round the cornfields.”

In these lines, then, we find definite reference to a nude woman going around the borders of the cornfields for the purpose of protecting them from injury. In my notes Nos. 43 and 44, it is stated that a plough with a lump of earth called “the milk woman” is taken around the fields several times after they are

¹ [See Frazer, *The Golden Bough*, 2nd ed., vol. II, chap. III.—Ed.]

sown, and this making of a circle around the field is called "wedding the fields." Is there a connection in these two practices?

46. *Binding the Rain.*—Mr. Croke, in his *Folklore of Northern India*, tells of various devices for binding the rainfall. In this district there is the belief that certain persons have the power to cause the rain to cease. It is said that the merchant when he has stored away large quantities of grain to be sold at a profit, will gather some rain from the eaves of the house in an earthen vessel, and this vessel filled with rain-water he will bury under the grinding mill. The consequence is that from that time forward the thunder will be heard rumbling in the distance like the grinding of a flour-mill, but there will be no more rain. I think it is said that the rain must be gathered from the eaves of a house at the *Pora Festival*.

47. *Counting and keeping Records.*—The method of enumeration followed by the most ignorant people of the district is that of counting by fives. For instance, if a man is counting fruit, he lays aside five which make one *ganda*. Four groups of five make one *kori*, and five groups of *kories* make one hundred. According to Bates' *Hindi Dictionary*, a *ganda* means four, in this district, however, it invariably means five. The great majority of the people in the district cannot count further than ten. The usual way to state high numbers is in *koris* or twenties—160 rupees is eight *kories*, and so on. Intermediate numbers are expressed as follows: 46=six over two *kories*; 115=five less six *kories*, and so on. The grain measures most in use are also on the same principle. Twenty *kātās* make one *khandi*, and twenty *khandies* make one *gārā*. When grain is being measured at the threshing floor, the record is kept by making one small pile of grain (a handful in quantity) for every *khandi*. When grain is given out to the labourers from the granary, the record is made on the earthen wall of the granary in cow-dung,—one stroke of the finger dipped in cow-dung means one *kātā*, when twenty strokes have been made they are crossed out and a cipher takes their place and the perpendicular strokes start again from one to twenty.

48. *Some Agricultural Practices*—(1) With regard to the sowing of linseed, there is a belief that if the seed is sown from a woollen blanket and cattle graze in a field grown from seed thus sown, the cattle will surely die. I questioned a farmer in the Damoh District on this point and found that the same belief prevails there also. (2) It is also said that if iron in any shape should come in contact with peas when they are being sown, the seeds will not germinate. An iron or metallic spoon is never used to stir the peas when they are being boiled as *dall*, for the metal will cause the *dall* to be tough and indigestible. (3) When the rice or *kodo* harvest is about to be completed and the reaper comes to cut the last sheaf, he will throw it up into the air and use some of the obscene phrases which are used in the *Holi Festival*. (4) When the grain has been threshed in the threshing

floor and the first load of threshed grain is being carried to the house to be stored, the housewife will come out to meet the labourer who is carrying the load. She has in her hand a *lota* of water, and with this she walks around the man carrying the grain and does obeisance to the grain. This respect is paid to the first load of grain only.

49. *Cause and Cure of Styes.*—There is a wide-spread belief that styes are caused by seeing a dog in the act of defœcating. And there are several remedies employed to remove a sty. One of the most common remedies is connected with the *Dalhan Pahar*, the hill which occupies such a prominent position as a geographical feature of the district. This hill may be seen at a distance of fifty or eighty miles. The peak of the hill seen at a distance just appearing above the horizon has some resemblance to a sty. The belief is that if a person suffering from a sty should face this mountain and say, "*Dalhan Pahar chotā mor sulie barā*" (the Dalhan Hill is small, my sty is big) the hill will be annoyed, the sty will be pleased, and as a result the sty will disappear. Some say that while saying these words, the afflicted person should rub the third finger of the right hand in the palm of the left hand and apply the finger to the sty. It is also customary to take a grain of the wild rice, apply it to the sty, and then throw it away. As the grain decays the sty will disappear.

50. *Saluting at Lamp-light.*—It is customary amongst the Satnamies for the menials and subordinates to salute a superior when the lamp is first lighted at dusk. I was once seated outside a tent with a number of villagers around me, when the servant lighted the lamp and placed it on the table inside the tent. Immediately all the villagers arose and said "*Satnam*" to me and then resumed their seats. Being a stranger to the people at that time, I was completely taken aback; but on inquiry I learned that this is a common practice. Now I have come to look for the salutation under similar circumstances. The entry of the lamp is considered the ushering in of a new period of time, and hence the people "wish you the time."

51. *Concerning Meeting and Entertaining.*—It is an invariable practice when relatives come together who have not met for a long while, for the womenfolk to weep and wail loudly. A son has been away for months and returns to his parents' house. He will first go and touch the feet of his father and mother. When he has been seated, the mother and sisters come to him and each in turn, placing both hands on his shoulders, weeps loudly and in a wailing tone narrates anything special that has taken place in his absence.

To a stranger it would seem that a great loss has befallen them. A daughter would be welcomed in the same way. Frequently I have mistaken the weeping of meeting for that of mourning. Experience, however, has taught me to distinguish the two kinds of wailing. When anyone goes as a guest to a friend's house, he partakes of the usual food prepared by the family. When the people who are entertaining prepare some specially good food,

he takes it as a sign that his entertainment has now come to an end, and the next day he takes his departure.

52. *The Spindle and the Panchāyat.*—When a *panchāyat* or meeting of the leading men in a village is in progress, it is considered unwise to have anyone present who is twirling a spindle. It is said that as the spindle keeps revolving, so will the discussion move in a circle and fail to come to a decided issue.

53. *Vermin from the Clouds.*—There is a very prevalent belief that worms, frogs and snakes drop from the clouds. After cloudy weather, when insects appear on certain vegetables, it is said that they have dropped from the clouds. Strange as this idea may seem to us, we have a phrase which is even still more strange, for we sometimes say, “It is raining cats and dogs.”

54. *Tattooing.*—This is done by the Gond women who usually travel through the district during the harvest time. The tattooing is not as elaborate as is seen in other parts of India. In fact, it appears to me to be strikingly meagre. The most common figures are those of two deer facing each other, and also the figure of a chain or part of a chain. It is said that if a woman is not tattooed in this world, she will be marked with a *Sabār* or crow-bar by the gods in the next world. A woman will on no account allow her husband to pay for any tattooing she may have done, lest he should say to her when displeased, “I have not only paid for you at our marriage, but I have paid for your tattoo marks as well.” Rather than give occasion for this taunt, she will beg of a friend to pay for the tattooing she may have done after leaving her parents’ home.

55. *Some Matrimonial Beliefs and Practices.*—(1) In the event of a bachelor marrying a widow, he alone goes through the marriage ceremony, for a woman never goes through the marriage ceremony more than once. The bachelor in this case would be wedded to a dagger, and the dagger will take the place of the bride throughout the ceremony. (2) If a couple should have twenty-one children, it is said that they would go through the marriage ceremony together a second time. Or if a couple should live to see a grandchild’s grandchild, they will do the same. I was told that a couple in a certain village lived to see their grandchild’s grandchild; and my informant claimed to have been present at the marriage ceremony which was performed. I will not vouch for the truthfulness of my informant.

56. *Lippoing.*—When a house is *lippoed*, i.e., the floor plastered with cowdung, it is customary to begin at the doorway and do the plastering inwards. Never is the house *lippoed* outwards except after a death.

57. *Effects of an Eclipse.*—An eclipse, it is said, has a detrimental effect on granaries and on animal life not yet born. In order to avoid the grain in the granary losing its germinating power, a mark is made on the side of the granary with cow-dung. The same means is employed to remove the evil influence from pregnant animals. A mare would have a mark made on the side with *gobur* (cow-dung) and a pregnant woman has a mark made

on her left side. I think it is a circular mark that is made. If this precaution was not taken, the offspring would be deformed. I once met a lad on the roadside with a deformed leg. I afterwards questioned the man who accompanied me as to the probable cause of the deformity. The reply was "*Grahan khich liya*"—The eclipse has drawn it up. His meaning was that shortly before the lad was born, there had been an eclipse, which caused the deformity.

58. *Cause of another deformity.*—There is a firm belief that if one should have a sixth finger, it was caused by his having stolen garlic or *huldi* (turmeric) in the previous incarnation. So firm is this belief that gardeners have no fear of losing these vegetables from their gardens by theft. One who steals would appear in the next world with the mark of theft on his hand.

59. *Toothache, Cause and Cure.*—An insect is said to be boring in the tooth and causes the pain. In order to remove the insect, the patient is given a piece of hollow bamboo and he sits over a slow fire in which some particular leaf is burning. One end of the hollow bamboo is over the smoke rising from the fire, the other end is placed in the mouth as near as possible to the decayed tooth. It is said that the insect comes out of the tooth, falls through the hollow bamboo into the fire, and the toothache ceases. The gum of some of the Indian figs is also used to close the hollow of a decayed tooth.

60. *Anent the Holi Festival.*—Crooke in his *Folklore of Upper India* gives many interesting particulars regarding the *Holi*. I will mention only a few details observed in this locality. A heap of thorns, etc., are stacked about the first of the lunar month of *Phāgun*. This stack is made just outside the village on some open space. As the days go by and the *Holi* festival draws near, the stack of thorns and dried branches increases continually, for the boys keep adding to the heap of fuel day by day. In the centre of the stack of thorns is a high bamboo pole, to which is tied a branch of the castor plant (*Ricinus communis*.) Under the pole which stands in the centre of the *Holi* stack are some *kouries* or pice, and some turmeric. To the top of the pole is tied a sheaf of dried grass or straw. On questioning a gardener as to when he would sow a certain vegetable, he replied he would do so when the *Holi* pole (*dāng*) falls. His meaning was when the *Holi* is burnt. I find this is a common idiom—"When the *Holi* pole falls." The stack is set on fire by the village priest, who presents *hom* at the village shrine, and he is often a Gond or a *Baigā* or one of the "aboriginal tribes." The fire with which the *Holi* is lighted must be obtained from the *chak mak* or flint and steel. No other fire will suffice. Some of the ashes of the *Holi* are kept and supposed to have power in removing evil influences of spirits.

61. *The Burial of Gosais.*—On hearing of the burial of a prominent Gosai, I gathered the following information from some disinterested persons of other castes, who were present at the burial and witnessed the whole ceremony. (1) Immediately after death the body was washed and covered with moist ashes. (2) A

deep whole was dug on the bank of the tank and the body was placed in this hole in a sitting posture with legs crossed as represented in the figures of Buddha. (3) The face was toward the north. (4) The body had a *lungoti*, a meagre loin cloth. (5) Another piece of cloth was cut open in the centre and the head was put through this opening in the cloth, so that the cloth rested on the shoulders. It was coloured with a red earthen dye (*geru*). See *Exod.* xxviii. 31,32, R. Version. "Thou shalt make the robe of the ephod all of blue. And it shall have a hole for the head in the midst thereof." (6) Under the shoulder was placed a *jholi* or bag of cloth, the string of which went around the shoulder. (7) The right hand was placed to the mouth and in the hand was a *chappātie* (loaf of unleavened bread) touching the lips. (8) Inside the mouth was an *udrāj* (the sacred bead which mendicants or those of the priestly castes wear around the neck. In the mouth was also a leaf of the *Bael* tree (*Æyle marmelos*). (9) By the side of the body was placed a stick such as mendicants carry and also a *kamandal* or water-vessel made from a gourd. (10) There were placed by the body a pair of wooden sandals. (11) A piece of cloth was tied carelessly around the head, and over this was placed an earthen plate turned upside down. (12) The body was then surrounded with fifteen *katas* of salt (something over a maund.) (13) When the earth had been filled in there was a *Siv* (stone image of of the Linga) placed over the grave, and the fellow-caste-men went around the grave seven times and sprinkled rice on the *Siv*. (14) Every night a lamp is lighted at the grave for one year and a *lota* of water and some rice is sprinkled over the *Siv* daily. In connection with this burial I should mention that a short distance (five miles) from the village (Heraspore) in which this burial took place, is another village (Dharampurā) which for many decades past has been the residence of Gosais. On the banks of the tank of this village are five different temples. I was told that each of the temples is built over the grave of a man buried as described above. My informant was able to give me the names of four of the Gosais buried there, but he said the name of the man buried under the fifth temple (certainly the oldest and now in a delapidated condition) was unknown to the village people. They had forgotten the name.

62. *Birth Practices*.—Immediately on the delivery of a child the mother has cotton stuffed into her ears. This is said to "keep out the wind." This is also done when one is expiring. There is a belief that a male child comes into the world the face upwards, and the female with the face downwards. It is said that if a male is born face downwards, he will be effeminate, and *vice-versa*. The hair is never allowed to remain knotted during delivery, and if delivery is prolonged and painful, the woman is taken into another house as it is believed the house has something to do with the delay in the child being born.

63. *Sworn Friendships*.—These are known by various names, which are usually connected with the object employed in sealing the friendship. One of the most common names is *Māhāprāsād*,

(the great feast or food). It is supposed to be formed by the convenancing parties partaking together of some of the food cooked and sold at Jugganāth, and brought home by returning pilgrims. As a matter of fact *Māhāprāsād* now means anyone who has sworn to be a life-long friend. These friendships are also formed with the use of Ganges water brought home by pilgrims. In this case the friendship is known as *Gangājal*.

Then, again, any flower may be employed, and the friendship would be termed merely *phul* (flower). This is usually the case amongst women. Each party places a flower in the ear of the other and the friendship is formed. If some particular flower is used that flower gives the name to the friendship. In all these bonds of friendship, it is incumbent on the promising parties to refrain from taking the name of his friend, and they call each other *Māhāprāsād*, *Gangājal*, *Dounā* (*Artemisia vulgaris* or Indian wormwood) or merely *Phul*. It is astonishing how very binding these friendships are considered. After an acquaintance with the people of 14 years I can recall only one instance in which such a friendship was broken. Like David and Jonathan, the parties stand by each other, they are bound together for better or for worse, etc., etc. It has been hinted to me that these friendships sometimes result in a community of possessions extending even to a community of wives. In this connection it is interesting to note what is done when one of the friends happens by forgetfulness or necessity to take the friend's name. He will go to his friend and say, "*T'or douki mor douki, gendā gajlā phul.*" These words may have two meanings and have been interpreted both ways to me. They may mean, "Your wife and my wife are a garland of marigold flowers;" or they may mean, "Your wife is my wife, a garland of marigold flowers." By repeating this couplet to his friend it is supposed the offending one makes propitiation for his offence.

64. *Concerning Witches, Fairies, etc.*—(1) There is a belief that witches sometimes have an insatiable desire for human blood, and they can suck blood from the navel of a child without anyone knowing it. As a result the child becomes emaciated and dies. There was once a Telin witch who was possessed by this desire for blood, and not being able to suck the blood from the navel of any other child she was compelled to draw blood from her own infant. If an adult also should suddenly become emaciated and loose flesh, it is said that a witch has sent down a long tongue or tube from the roof of his house when he was asleep and has drawn blood from his navel. In order to regain strength it is necessary to eat a small kind of fish found in the rivers. Also to eat a kind of rice. (2) If a child is believed to be possessed by a witch or an elf, it is customary for the parents to take a bangle and a tassel worn at the end of a plait of hair by women and to tie these articles to a twig of the *Baer* tree (*Jujuba vulgaris*). The *Baer* tree is supposed to be the special residence of witches, or elves or other invisible beings. (3) According to Bates' *Hindi Dictionary*, the word *Pret*

has several meanings, "a spirit of the dead, a goblin spirit, evil sprite, fiend, etc." Here I find it is commonly used to mean an elf or fairy, not necessarily a being with evil influences. *Pretins* are said to assume the form of women and frequent the bazars. By their superhuman powers they can take away articles from the stalls of tradesmen without being detected. A woman with a crooked nose is suspected of being a *Pretin*. The story is told of a *Raut* (milk-man) who was returning from a bazar when he saw a *Pretin*, most beautiful to look upon, fomenting her child under a *Baer* tree. He persuaded her to go to his house, but he hid her *sāri* in a hollow bamboo. The *Pretin* lived happily with the *Raut* and they had three sons. At the marriage of the eldest son the neighbours asked the mother to dance and amuse them. She refused to do this unless she was given her own *sāri*, which the *Raut* had hidden. Persuaded by his guests the man at last produced the hidden *sāri* from the hollow bamboo. Scarcely had the woman put it on when she became invisible and disappeared, never to return. It is said that the descendants of the three sons of this *Pretin* are still in this district, but no one has ventured to inform me just where they may be found. Students of folklore will recognize in this story the widespread belief that the influence of fairies, giants, etc., lies in some special object, e.g., Samson's strength being in his hair. (4) It is believed that some have the power of placing a *Pretin* in a flute or fiddle, and in this case the instrument will make music of its own accord without any human assistance.

65. *Deserting Houses*.—I have been told that amongst the jungle people of this district if a death should take place, the entire settlement, never very large, moves away to another site, doubtless because of the belief that the deceased will frequent his former abode. Amongst the people of this Tehsil, who live in larger and more settled villages and hamlets, there is an inclination to desert the house in which a death has occurred, and to build another house on another site. Higher up in the grades of civilization we find a desire to withdraw from the room in which one has died, if not from the belief that it is haunted, then on account of the unpleasant associations. Amongst the people of whom I write, if a house is to be deserted it will be *leepoed*, a lamp lighted, and the residents will withdraw.

66. *Punishment of Witches*.—If I was to tell of all the witch stories which are told amongst the people, these notes would have to swell out to undue proportions. Perhaps I should mention that Chhattisgarh has long had a reputation for witchcraft and similar cults. Sleeman, writing as far back as 1835 in his *Rambles and Recollections*, mentions these parts as having an unfavourable reputation. It is currently reported that in the old days when a witch was found she would be tied to the horns or the legs of a buffalo, and the buffalo was then infuriated till the victim was killed.

67. *A Case of "Possession"*.—It was on the night of the 9th of August, 1901, that I had the following experience with a man said

to be possessed by the Devil. At eleven o'clock I was called to the Leper Asylum, of which I am Superintendent, to see a leper named Visahu, who was laid hold of by *Shaitan*. It was a dark, drizzling night and I went to the Asylum lantern in hand. Approaching the gate of the Asylum I heard many loud voices for the lepers were greatly excited, and I could also hear the grinding of teeth from the unfortunate man. This was heard at a distance of fully one hundred yards. On approaching the crowd I found the leper Visahu, a man of medium physique, lying on the ground on his chest struggling violently, while two men were seated on him trying to keep him down. They told me he was making efforts to run away from them, and as the river was not far off they feared he would drown himself. I immediately ordered the men to loosen their hold of him, and I talked with him calmly and firmly and tried to pacify him. Meanwhile I noted the wild meaningless look in his eyes, as though he was terribly frightened. He was trembling, shaking from head to foot, his teeth were grinding, and I was convinced it was not a case of shamming. I concluded he was in a fit of some kind. Ordering the ammonia bottle from the hospital, I led Visahu to his own room, and had his bed put in readiness. As we were about to enter his room, the man broke away from me and rushing through the lepers who had gathered around, he went straight for the gate. I went after him as fast as possible, and the crowd followed me. Visahu ran straight into the graveyard, close by; seeing this the crowd lunged back and only two attendants followed me as I ran after the man over the *Chamar* graves. With shod feet and with a lantern we had difficulty in following the man because of the cactus thorns and the ditches full of water. He, however, did not seem to heed these, and ran along bare-footed over the graves and the thorns to the other end of the graveyard where he plunged into a ditch full of water. When we overtook him, he sat quaking and grinding his teeth staring around wildly. I again laid hold of his arm and led him back to the Asylum and seated him in the Chapel. Here I kept him under my gaze, talked with him and poured water between his set teeth. For sometime he gazed at me stolidly, with a vacant look and without blinking; there was no intelligence in his face. In the meantime the ammonia was brought from the hospital. He did not seem affected by it. After about ten minutes in the Chapel, his face changed, he looked around to the others and said, "Why have you brought me here?" He seemed like one waking from sleep. He felt the mud and water on his body and asked why we had thrown water on him. I asked him where he had been; he said, "Nowhere!" He had no recollection of having acted strangely. He then became conscious of the bruise on his knee and the thorns which had become imbedded in his feet. On questioning him I learned that he had been on leave from the Asylum and had returned that morning walking some eight miles. After a night meal, he sat in the corner of his room playing on a long bamboo flute which has a deep

monotonous tone. He wife was also in the room. After playing for some time he arose and went to the door to go out. Outside the door he said he saw a figure and exclaimed, "What is this?" Immediately he fell forward, and that is all he could remember. I am positive that this was not a case of shamming. I am also positive that he did not recall what took place, that he had no recollection of what took place from the time I saw him on the ground to the time he "came to himself" in the Chapel. I am also certain that he was not under the influence of an intoxicant. This case puzzled me for a long while. I could not bring myself to believe it was a case of demon possession, though everything seemed to support that theory. Since this experience, I have looked into the subject of hypnotism, and I am now of opinion that this so-called "case of possession" was actually a case of auto-hypnotism. The man playing his flute in a monotonous tone for a long time (probably gazing at the light) brought himself into the hypnotic state when he was susceptible to any outside suggestion. Seeing a shadow, may he not have taken this to be a spirit about to possess him? Then the cries of his neighbours "*Shaitan laga hai*" would still further deepen the impression, or, technically, the "suggestion," until he actually became to himself a man possessed. I have seen persons coming out of the hypnotic state, and the way in which consciousness returned to them reminded me of the way in which the leper came to himself and was first conscious of his bruises. I mention this case with the only explanation which suggests itself to me. Perhaps I should say again that there was no history of the use of intoxicants, and the man who is still in the Asylum (May, 1905) is not addicted to the use of intoxicants. Need I add that all the lepers and all the neighbours were fully convinced that it was *Shaitān* who possessed the man, and the *Shaitān* was supposed to be the spirit of a leper who had died fifteen days before and was buried in the graveyard into which Visahn took us on that memorable night in August.

68. *Pacifying the God*.—I once saw a man leading a black goat. On questioning him I was told that he had a buffalo worth forty rupees which was ill. He was taking the goat to tie near the buffalo. He would feed the goat in the name of the *deo* which possessed the buffalo, and when the buffalo recovered, at the next principal festival, the goat would be slaughtered in the name of the god. Some days later I heard that the buffalo had died, and the man was wishing to sell the goat. Another sacrifice, however, proved more fortunate. I had a syce, a Ghassia by caste, who had an only son, who was drowned in the river. As the syce and his wife were getting on in years, they wished to have another son. I recall the time when my syce asked leave that he might sacrifice a pig at some shrine in order to have a son. A year or eighteen months later I was told that Raru, the syce, had a son. This boy is now living, is about ten years of age, and comes to me every Christmas for *Baksheesh*. His father is too old for service. Nothing could convince the father that the son was not given in

answer to his sacrifice. To his parents he is in very truth a Samuel —“ asked of God.”

69. *Terrors of the Night.*—In common with all primitive peoples, the villagers of this Tehsil are greatly scared by the dark night. It is not the dread which civilized persons have of stepping on a snake or a scorpion, but the darkness to them is frequented by evil spirit and malign influences. Specially after someone has died is this fear apparent. It is completely removed during the moonlight nights and most apparent during the dark wet nights in the rains. On a dark night it is considered unwise to name a person recently deceased; a snake also should not be mentioned. By naming the snake or the deceased they will come near. “Speak of an angel,” as the saying goes.

70. *Settling Quarrels.*—The Rauts or herdsmen have a festival in September or October, which I am sure will repay investigation by an expert. I wish to mention one item in this connection. For about a month the Rauts go around dressed up with strings of shells (*kouries*) with leather or metallic shields and *lathies* or wooden swords in the hand. At this time they have what is called *mātār jāgnā*. *Jāgnā* means to awake, but what *Mātār* means I cannot say. The Rauts get together on the site where they usually tie the cattle during the heat of the day, and at this place they have a great feast and a merry time. They are all dressed up as described above, and I am told they eat with their shoes on and their *lathies* in their hands. After this feast they go forth to settle any quarrel which may have arisen with neighbouring Rauts during the past year. The quarrel is settled by the use of *lathies* and not by words, one party throws out the challenge by shouting out words of abuse, the others reply and they engage in a hand-to-hand fight till the people in one party are defeated and take to their heels. The people tell me that these fights still take place, but I have had no positive evidence of this being the case.

71. *Scorpion Stings, Immunity from.*—I know for a fact that there are persons on the Tahsil, who are immune to the sting of the scorpion. A man of my acquaintance will deliberately take up a scorpion holding it by the tail. This is not merely done by courage due to dexterity, for I once saw the scorpion strike him and the only discomfort he experienced was a pain as though the part had been burnt or rubbed with chillies. There is a belief that dark skinned persons are more susceptible to the poison, for they suffer more intensely. It has also been stated that if a woman is stung by a scorpion during pregnancy, her offspring will be immune to the scorpion poison. There are certain persons who have a reputation for removing the pain consequent on the sting of a scorpion, and they go through various mesmeric passes over the part stung; and if the distressed portion be the arm, they profess to gradually bring down the pain to the fingers from which extremity the pain is eliminated.

72. *Concerning a Mushroom.*—There is a dark-coloured rather high-growing mushroom found in the open fields, which is known as *Suri gae ki dhetti*, i.e., the teats of the Suri (wild) cow.

I am told that this mushroom grows over the spot where a cow has given birth to its young. It is an invariable practice for the herdsmen or the ploughmen when they find this mushroom to stick it in the cord round the waist or to put it behind the ear. It seems to serve no practical purpose, and yet people carry it around like a charm. This mushroom is tough and leathery and appears to be quite durable.

73. *The Festival of Stilts.*—During the latter half of the Hindu month of Śrāvan is held, what I have termed, the festival of stilts because of the practice amongst the boys and sometimes the young men of making stilts and playing with them for 15 days. Just as soon as the light half of Śrāvan comes around, these stilts will be seen. The stilts are made by tying small pieces of bamboo about a foot in length to a long bamboo six feet long, and the foot is placed not across the step of the stilt, as is usually done by English school-boys, but the foot is placed lengthways on the step of the stilt, so that the long bamboo is held by the toes of the foot. The stilts are not nailed in any part but are tied with twine; and when the twine is wet it makes a creaking noise rubbing against the bamboo, and this noise made at every step of course adds immensely to the enjoyment of the youngsters. When the fifteen days are over, at the *Porā* festival, the children make some specially dainty cakes, and taking their stilts they all go down in a body to the river or tank. Here the stilts are all stacked together like rifles in a guard-room. Before this stack of stilts the children offer *hom* (incense), sometimes merely burning dried cow-dung. Then they untie the foot-pieces from the stilts, and one foot-piece is thrown into the river and the other is either buried in the sand by striking it upright or it is carried to the home and struck in the ground in front of the doorway.

The long pieces of bamboo are also taken home and put in the roof to be kept till the next season. After this festival of stilts, the *Kumhārs* make earthen bullocks, paint them in gay colours and take them round for sale. They also make earthen grinding mills and small vessels to amuse the girls. This time of the year appears to be specially the time of amusement for the little ones.

74. *The Fisherman's Net.*—During the *Dasherah* festival a fisherman goes around with his net and he throws this on to the child of any prominent person. This appears to be a sign of good-luck or prosperity, for the parents of the child reward the fisherman with grain or money. A fisherman once tried to throw his net on my little girl; she was greatly alarmed and would not allow it to be done. The man thought it would be unfortunate to be thus hindered; so he placed his net over me. It is a question whether he was more concerned for his own interests or mine.

75. *Snake-Lore and Snake-Charmers.*—The snake-charmers of the district are called *Gouriyās*. They appear to be few in number and I do not find them named in the Census Report. They reside in a few villages of this Tahsil, engage in agriculture during the rains, and in the dry months they wander away to great distances.

with their curious pets, which they exhibit and thus make a precarious living. I have called them snake-charmers, but they do not charm with music. I have yet to see the *Gouriyā* who uses the gourd flute so often seen in other parts of India. They wear the peculiarly twisted narrow turban which is characteristic of the Indian snake-charmer. They have attached to their turbans a few claws of bears or tigers and the talons of hawks or large birds of some kind. The snakes usually carried around are the *Python molurus* and two varieties of the *cobrā*; one with the spectacles and the other without them. The *cobrā* with the mark on the head is called the *Domi*; without this mark it is called the *Gouhā*, they are believed to be quite distinct snakes. I learned, in conversation with the men, that they make an agreement with the snake when it is first captured as to how long it will be kept in captivity. Some vow to keep it for six months, others for a year-and-a-half. When the time is up, the snake is given its freedom and another is captured. It would be considered a very great misfortune if a snake should die in captivity. On questioning a man as to how the *cobrā* came to have the mark on its head, I was told that when *Bhagwān*, the deity, went into *Pātāl*, (the nether region) he placed his foot on the *Nāg*, and it is the footprint of *Bhagwān* that is seen on the snake to-day. "It shall bruise thy head, etc." *Gen.* iii. 15. The *Python molurus* is considered the most *dharmi* (righteous) of all snakes. The reason is that it will never go out of its way to seek for its prey; it lies quietly till the victim happens to come into its immediate vicinity, and then it will lay hold of it. The *Ptyas mucosus* is locally known as the *Āshariyā*, from the month *Āshār*, corresponding with June-July. It is so called from the popular belief that it is poisonous only in *Ashār*. The following interesting story is told concerning this snake. I have heard this tale with many variations and it appears to be widely known: At one time the *Āshariyā* was the only poisonous snake¹ in existence. It found a *raut* (a herdsman) lying on the side of a field where he had fallen asleep while tending his cattle. Near the head of the herdsman lay his bamboo flute, which he often played to while away the time while watching his cattle. Now the *Āshariyā* had often heard the sound of the flute, and was annoyed at hearing the music. Finding the *raut* asleep, he determined to silence him forever. He approached the head of the sleeping man and struck him in the forehead saying, "Now you are silenced, and I will never again be troubled with your music." When the *Āshariyā* had gone away, to his great astonishment he again heard the sound of the herdsman's flute just as before. The flute lay at the head of the dead body in such a position that the wind blowing through it caused it to make music just as when played on by the owner. The *Āshariyā* was much enraged at the thought of his poison not having silenced the *raut*. He determined to distribute his poison to others, and to increase the possibility of the man being killed by his poison. He therefore gave an invitation to all manner of reptiles to come to a feast which he had prepared. All the reptiles came in great numbers to this feast.

¹ [Cf. the *Karin* and *Patani* Malay stories of the python (Mason's *Burma and Annandale, Fascic. Malay Anthropol.* I).—Ed.]

[N. S.]

While distributing food to the guests the *Āshariyā* mixed with the food a good portion of his own deadly poison, which up to that time he alone had possessed. The cobra and the scorpions and all other stinging insects received as much poison as was contained in the food of which they partook. Hence the various degrees in the poison of snakes. The *Āshariyā* in consequence had only a little poison left, and so it is poisonous only in the mouth of *Āshar*. It is said that traders in cattle and those who have to do with the breaking in of cattle keep a piece of the tail of the *Āshariyā* by them. If the tail of this snake is pushed up the nostril of a refractory animal (a bullock or a buffalo) the animal will immediately become manageable and submissive. There is still another snake which holds an important place in the folklore of the district. This is locally known as the "*Murari sāp*." I cannot supply the scientific name, but it belongs to the family of earth-snakes, which burrow underground and come to the surface only occasionally. It is not much more than eight inches in length, thick and of much the same dimension from end to end. On account of the similar appearance of head and tail, it is sometimes said to have two heads. For six months it goes one way, and for six months the other. On being touched this snake has a way of curling around in a circular form. This may account for the name (*murā* means to twist), and it certainly accounts for the popular belief that it is the greatest enemy of the larger snakes, for it will twist itself around them till they are strangled. But the most common belief with regard to the *Murari* is that it will attach itself to a woman's breast and draw away her milk while she sleeps. The snake, it is said, will place its tail in the child's mouth and thus soothe the child while drawing away the milk for its own nourishment. Women hold this snake in special abhorrence.

While speaking with a man concerning the *Murari*, he told me that only recently he had killed this snake in the house of a neighbour, and he had found a quantity of milk in its maw. On my expressing my doubt he went on to explain that his neighbour's wife had a child which had lost flesh for some time past. The reason given was that the snake was taking the woman's milk while the child was starving. Now that the snake had been destroyed, the child was gaining flesh and improving in health. If a *Murari* is found in the fields, it is taken up on a stick and thrown towards the sun. This is called *suraj dekhānā* (shown the sun). It is thrown high up in the air and is killed as a result of the fall. The snake charmers also informed me that at the *Hariyāli* festival, it is their practice to go out in the fields and burn *hom* (sacrifice) at the roots of the trees or herbs which are employed as antidotes to snake poison. It is at this festival also that they lay in a stock of antidotal herbs for use during the coming year.

76. *A Love Potion called Hāthājori.*—The Gond women who go around the Tehsil in the winter months tattooing and selling herbs and roots with medicinal properties, also have with them a herb known as *hāthājori*, which may be roughly translated *hands*

joined. I have seen this herb or root, and it certainly resembles two hands clasped together. This is said to be a *mohini* and is given by a suitor to a woman whose affections he may wish to win. Dr. Watt's in his *Economic Products of India* mentions a vegetable growth of this name and he calls it "Eagle's claw." (See his Dictionary M. 208.) He makes no reference to its being a love-portion, and may be he describes an entirely different herb to that which is sold by the Gond women. I have mentioned the *hāthājori* here because of its connection with the following passage in *The Sacred Tree* (a work by Mrs. J. H. Philpot), page 106. "In the valley of Lanzo in Piedmont, lovers in doubt whether to marry consult the oracle in the form of a herb called *concordia*, the root of which is shaped like two hands each with its five fingers." Jewellers sometimes advertize in their catalogues ladies' brooches, which represent two hands clasped together. Is this merely a convenient emblem of friendship, or is it a survival from herbs which looked like clasped hands which were used as love-portions? Since scarf pins with the horse shoe are a survival of the primitive belief that iron wards off evil spirits, why may not this clasped-hand brooch also claim as ancient an ancestry?

77. *A Marriage Practice*.—Going through a village, I noticed a strange figure made of straw attached to a long bamboo hanging over a house. On inquiring I was told that a marriage had recently taken place in the house, and the figure which drew my attention was that of a deer. I then learned that it is customary after a marriage for the bride and bridegroom and friends to resort to the river or tank and wash off the *huldi* with which the persons of the bride and bridegroom have been covered; and while this is being done there is much fun and joking and teasing. One of the plays at this time is to make a deer of straw and place a bow and arrow made of bamboo in the hands of the bridegroom and not let him go from the river till he has taken good aim and pierced the deer with his arrow. After striking the deer he gives chase to the bride who with her friends runs away to the house, and is there overtaken by the bridegroom and his friends. The deer is hoisted on a high bamboo and hangs over the house for some time.

78. *A Primitive form of Lamp Light*.—The *Croton tiglium* is most commonly found throughout this Tehsil. It is used as a border plant for gardens and groves. The seeds of this shrub form a drastic purgative, and are used for this purpose by the people. But there is still another use made of the seeds. They are strung together by children in long rows, and the lowest seed is set on fire and the seeds burn in succession one after the other very slowly, at the same time giving out quite a deal of light. This play amongst the children may possibly be the remains of a general practice of lighting the houses with the seeds of the croton strung together.

79. *Massage and Branding of Infants*.—It is considered a necessity for the mother to massage her infant daily. The mother sits on the floor with her two legs stretched out together straight in front. The child is placed on its back in her lap, the head resting between the knees and the feet towards the mother. By the side

of the mother is the *Gorsi* or roughly-made earthen pot in which are kept the slowly-burning cowdung cakes. The infant's abdomen is first oiled and then the mother places one hand over the fire and the other over the child's stomach, and thus with rapid movements of the hands massages the child with each hand alternately. Meantime she is singing some soothing lullaby. This fomentation is intended to remove flatulence. But sometimes a much severer process is adopted. The child is said to be attacked with a complaint which is called *Dhābhā*. I am unable to say whether this is merely a severe attack of flatulence or constipation or a specific disease. The stomach of the infant, it is said, becomes swollen and hard. If it be a mild attack of *Dhābhā*, the abdomen is branded with the point of an iron sickle. The sickle is placed in the fire till it is red hot and the point is then applied to the stomach in eight or ten different places. Once when passing through a village at night I heard excruciating cries from a child; on inquiry I was casually informed that a child was suffering from *Dhābhā* and the parents were having it branded. If the disease assumes a severe form, what is called big *Dhābhā*, then several double-pice are placed in the fire, they are then taken up with pinchers and applied to the surface of the abdomen leaving a burn the size of the face of a pice. I believe fully 99 per cent. of the natives of this Tehsil carry on their person the marks of this infantile branding. Some of them carry the marks for forty and fifty years. May we not ask if this practice of branding infants has not some connection with the widespread belief that changlings and witches are afraid of fire and also of iron. This belief may have originated the practice, which has continued because of the beneficial results due to counter irritation. Adults are also branded on the arms and legs in severe cases of rheumatism or in cases of sprains.

80. *Stone Heaps*.—In certain parts of the Tehsil will be found a great pile of stones. A single heap of stones is called a *Kurihā*, from *Kurhonā* to heap. The people can tell nothing as to the origin of the practice, but they say it is considered fortunate to throw a stone on to the heap in passing and thus add to the accumulation of stones. In 2 *Sam.* xviii 17, with regard to the burial of Absolam, we read that he was thrown into a pit and they "raised over him a very great heap of stones" (Revised Version). In Adam Clark's commentary on the above passage I find the following remarks: "This was the method of burying heroes and even traitors The ancient cairns or heaps of stones in different parts of the world are of this kind." In Col. Meadows Taylor's novel *Tara, a Maharatta Tale*, I find the following passage descriptive of the country near Bijapore. "The heap of stones had been formed gradually by travellers who, coming from all sides, took up one from the path, and threw it with a prayer to the local divinity upon the pile. This had been done no doubt for centuries."

81. *Ideas regarding Transmigration*.—Some years ago I was quite intimate with a *Satmāsi Ohamār*. He was fully eighty years of age. This man had many strange ideas, which, unfortunately, at that time I did not appreciate. With my present acquaintance

with folklore, I would have regarded him a valuable "find." For many years now at the *Divali* festival, a lamp has been burnt at his grave for three nights in succession. This old man claimed to be able to tell just what form any man or animal has assumed in the last life, or incarnation. He said that he had some cattle, who were persons who had died owing him money; and they had returned in this form to pay their debts. He himself claimed to have been a Rajput in the last life, and for some offence he was born a Chamar. He expected on his return to the earth to be born a Brahman. I once took him to see my horse which was tied in the stable. On our entering the stable the horse started. I said to Goburdhan, "Now, can you tell me what this horse was in the last life." He was equal to the occasion, for he replied immediately, "He was a deer and was shot." "How do you know?" I asked. "Did you not notice how he started when we entered," he replied, "he is timid like a deer, and look at this," pointing to a birth-mark on the side of the animal, "this is where a bullet has entered. He was a deer and was shot." It is a common idea amongst the people of this district that marks on the body are transmitted. If a child should be born and should die almost immediately, the expression used is "*bahurgayā*," "It has returned." The idea is that the life came into this world and went back from whence it came.

82. *Observation during a Small-pox Epidemic.*—Early in 1904 there was a small-pox epidemic in the town of Mungeli; and I had ample opportunity of making many interesting observations. The conclusion I came to was, that during the epidemic the people feel that there is some strong personality in their midst, and all their efforts are with the purpose of pleasing this great power or influence or person. As is usually the case, they believe what would please themselves will please this great being or power. The *mātā* or *devī* is supposed to be visiting the family in which there is a case of small-pox. It is not considered a misfortune but rather an honour. The yard of the house in which the patient lies is surrounded by a hedge of thorns or dried twigs. The purpose is to keep away persons whose presence will annoy the goddess and to hinder persons with shod feet approaching the house. Someone is always in attendance on the patient. Every word he may utter is considered the word of the goddess. If the patient requests water, the attendants will say, "The goddess is thirsty," and will bring the coldest, purest water obtainable. In the delirium all the wild sayings of the patient are considered the utterances of the great person in their midst. The behests of this person must be complied with, however difficult and repulsive. If the patient says he wants food from the house of a scavenger, it must be done rather than incur the wrath of the goddess. Once a man walked eight miles to ask for food from my table. The reason was that his daughter had small-pox, and when asked what she wanted, she was understood to say she wanted food from the sahib's house, and the father begged me to give him some. On several occasions the people have come asking for the fruit of the *papiyā* from my

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garden, as the *mātā* had asked for this fruit. If the goddess should demand a hen, the hen will be purchased and tied near the bed of the patient. It is said that a hen with reversed feathers is the one most appreciated. During a small-pox epidemic I have known poultry with reversed feathers to sell at an exorbitant price. Sometimes a goat is tied in the house of the patient and daintily fed in the name of the goddess, with a promise that it will be slaughtered in the event of the patient's recovery. Every evening in each house in which there is a small-pox patient, music is heard and songs are sung in praise of the goddess. Musical instruments are also employed, more especially the drum. The friends of the patient will sit up all night. If the patient is in distress, nothing is done to alleviate the suffering; but the friends perplex themselves in trying to find out what they have done to annoy the goddess or what they have omitted to do which will please her. One evening I questioned a young man passing my gate as to where he was going. He replied he was going to join his friends who were to watch by the house of a caste-fellow who had small-pox. On inquiring why he was going to watch, he replied, "In case a dog or a cat should come near the house at night and annoy the goddess." I asked how long the friend had had the sickness. He replied, "Six years." On seeing my perplexity he explained that they say *year for day* in speaking of this illness. I then asked how much longer he expected the friend would be sick. He replied, "Eight or ten years." When the epidemic was abating in the town of Mungeli, the following story was told around and about the town and was believed to be true by all who heard and all who told it. A certain Bania, whose name was given, went from Mungeli to the neighbouring town of Nawagarh; on his return after dark he came upon seven women seated by fires on the roadside. He addressed them as "friends" and asked them for fire to light his *birhi* (pipe). They paid no attention to him, and he noticed their fires had no smoke and that they burned steadily. He then went his way on horseback. His syce or groom came behind him and met these same women. They said to the syce, "Your master addressed us as friends and we have destroyed two of his children. Tell him we have done our work in Mungeli and are now going to Nawagarh." This story was believed to account for the sudden cessation of the disease in Mungeli and its sudden appearance in Nawagarh just at that time. I have been told that when the disease first appears on a person, he is seated on a bed and his feet are bathed with great ceremony. The water in which his feet are washed must be taken from a running stream; and the water must be taken up in a vessel drawn against the current and not in the direction in which the water is flowing. When the sickness has left the patient his entire body is bathed with great ceremony either on a Monday or a Thursday. Several months after the patient has recovered, the people have the ceremony of "*Vidā karo*," that is, "sending away" the goddess, as some visitor, is sent off, with ceremony. Special food is prepared, and the family party all wear new clothes, and with music and procession they all proceed to the river, where

food and small articles are thrown into the stream. Those who vowed the gift of hens or goats, go to the temple or shrine of the goddess, and there they will either set free those creatures or will slaughter them and leave the remains to be removed by the sweepers or other low-caste people. It so happened that the *holi* festival came on when the epidemic was in full force. I had expected this festival to be observed with much zest as the harvest had been plentiful. In such years all festivals are observed with much ado. To my surprise the *holi* festival that year received but little attention, and singing and obscene language were guardedly employed. The reason, I learned, was the presence of the *mātā* in their midst. It was considered offensive to the goddess to sing the *holi* songs. Special songs are sung at night to please the goddess, and it will be interesting some time to have these songs recorded and translated and published in this Journal.

83. *Concerning Stone Implements.*¹—While conducting a class of young men, I happened to have on my table a copy of the Journal of the Asiatic Society of Bengal. I showed the class illustrations of the stone implements in the Journal. One of the men remarked, "When I was a boy my father had a stone like that one," pointing out one in the illustrations. The youngman said his father called it a "*sarag patar*"—heaven or sky stone. I immediately saw the importance of this name and was positive the young man referred to a stone implement. In widely separated countries the belief prevails that the stone implements are thunderbolts, and here was the name "heaven stone" used by the people in Mungeli. Next morning I made further inquiries, and my syce offered to get me a "*sarag patar*" which was owned by one of his uncles. The uncle turned up in due time bringing with him a bored stone, and I saw immediately that it was undoubtedly a stone implement of former days. The only use for which this stone was now employed was as a remedy for *galwa*, swollen glands, round the neck. The man who owned the stone, said it had come down from father to son in his family, for generations. Together with this stone the man brought me a piece of stag's horn, which he said had always been with the stone. I now very much regret that I took no interest in the stag's horn and purchased only the bored stone. It did not occur to me that there was any possible connection between the stone and the stag's horn. Some months later I was reading Sir Daniel Wilson's book on *Left-handedness*. On page 49, he shows that in all probability the makers of flint arrows, etc., employed bones or horns, for these were the only implements at their service. The fact that a stone and a stag's horn were handed down for generations together would indicate some close connection between the two; and it seems probable that the stag's horn was the implement with which the stone was the bored. After two years of search I have succeeded in getting together only a dozen stones. Some of these have been badly rubbed when they were used medicinally. But we are able to judge of their original shape and form. One or two of the stones are beautifully smooth inside where bored, "as smooth as glass," as a friend remarked.

¹ See Plate VI.

One stone has undoubtedly been arrested in the process of manufacture. The outward form is complete and it has not been rubbed in any way for medicinal purposes. The hole in the centre, however, is only half bored. This hole was evidently made by striking in some sharp-pointed implement. It certainly does not show signs of the rotatory action of a horn or bone implement. One or two of the stones in my collection were said to have been found in fields near the site of an old village. Others have been heirlooms in families for many generations. One man told me he owned a "heaven stone," but his house was washed away in a flood and the stone disappeared. The people are very reluctant to make known the fact that they own the stones; and they seem very reluctant to part with them.

25. *A short history of the House of Phagdu, which ruled over Tibet on the decline of Sakya till 1432 A.D.—By Rai SARAT CHANDRA DAS, Bahadur, C.I.E.*

When in former times the Sakya hierarchs enjoyed the proud privilege of being the spiritual instructors of the Tartar Emperors of China, the envoy Situ Akyid took a census of the households of the agricultural Tibetans and also of the *Hor* Tibetans (so called from their leading a nomadic life like the Mongols). Within the *Thikor* or governorship of Phagmodu in Central Tibet, there were included two thousand four hundred and thirty-eight families, out of which six hundred belonged to Lhasa City, and five hundred to Taglúng. When *Hor* Jam, one of the Tartar Commissioners of China, visited the Chyañgkhā (the northern province, including Nom-tsho or lake Tengri Nor), he included the numerous tribes of herdsmen that dwelt there in the political province of Phagmodu. The Emperor of China, in consultation with the spiritual authorities of Sakya, placed this large division under an able *T'hipon* or provincial governor. Formerly, when both Dikhúng Di-gūñ and Dansa-thil hierarch amalgamated their temporal and monastic possessions, Gompā Shagrin, the abbot of Dikhúng, with the general consent of the clergy and laity of Tibet got one of his relations, named Gomtson, appointed as *T'hipon* who, under the patronage of the Chiefs of Kang-yeng and lower Mongolia built the government house (*T'hikhang*) of Tshong-du-tāgkhar. Thereafter, Khanpo Ringyal, the Tolpon of the famous hierarch Chyan-ñā Rinpoche, became the chief of Lhobrag Shong-de. About this time a native of Kham, named Dorjepal, by his ability, energy and accomplishments, attracted the notice of Chyan-ñā-Rinpoche. This young man, introducing himself to that Grand Lama as one sprung from the noble family of Dag Lah-zig, and as very anxious to be his disciple, so insinuated himself into his confidence, that the Grand Lama, struck with his general efficiency in all matters of importance, sent him to China to represent the interests of his grand hierarchy. There he took the opportunity of securing for himself and his heirs the governorship of Central Tibet, together with a state seal and decorations. Returning to Tibet in the year *Tree-tiger* (1192 A.D.), he built the *T'hikhang* (government houses) of Yarlúng, called Namgyal-ling and Nedong-tse. During his rule, which extended over thirteen years, he enjoyed the goodwill both of those who were above and under him. He was renowned for his liberality. His governorship extended over twelve important places, besides Nedong-tse, which was the chief seat of his government. These were Halayang, Namó, Chag-tse-tugu, Thangpo-chin-ling-me, Choi Slukha, Monkhar, Tashi-dong, Gya-thang, Tshong-dui-tag-kha, Zangri-Phodang-gang, Khortog-cha, and Kardo. After his death, his younger brother named Shon-nu Gyal-tshan, discharged the duties of *T'hipon* for three or four years. He was succeeded by one of his relations, named Chyang-

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shon (born of the family of Kya-ya-dag-chu), during whose administration the Sakya and Dikhung hierarchies fought with each other. Chyang-shon had the good wishes of the Sakyapa authorities, but owing to some cause having incurred the displeasure of Ponchen (chief Governor) Anglen of Sakya, he was ordered to be burnt alive, but on explaining matters he was exonerated and his life spared. After his death the grandson of Shon-nu Gyal-tshan, named Shon-nu Yontan, became *T'hipon*.

At this time Thumer Bukhoi, a Mongol prince of the Imperial family, with his wife, came on a pilgrimage to Tibet. The *T'hipon* having failed to show his efficiency in military as well as in civil matters, and being reported to have oppressed his subjects, the younger brother of Chyan-ña Rin-pochhe, nicknamed Gyavo, or the bearded, recommended his dismissal to the Mongol chief. During this time the State affairs of *T'hikhor* were conducted by a council formed of the following: The governor of Sakya Monastery, named Rin-chen Tashi, Tsou-ñui Pal, a relation of Chyan-ña-Rin-poche, the second cousin of Shon-nu Yontan, Tagpa-Phozzer, the son of Gogochu, named Dorje of Yarlung, Joro Tagpa Rin, and others. In the meantime, with the sanction of the Emperor of China, Taisri Tagpa-hodpa became governor. By bringing Gyavo, the brother of Chyan-ña-Rin-poche, over to his side, he also assumed the spiritual power. He gave the ex-governor, Shon-nu Yontan, the villages of Tenpora and Chomon-khar for his personal maintenance. On the death of Gyavo, the elder brother of Chyan-ña-Rin-pochhe, named Gyal Shonpal, proceeded to Peking, and with the sanction of Lhaje Phagmodu, (Phag-du heirarch) assumed the office of *t'hipon*. Shortly after, he was deposed by the Sakyapa authorities, who placed his younger brother in charge of the government. From him the office descended to Gyal-tshan Kyab, the son of Shon-nu Gyal-tshan.

When Disri Kuntob-pa proceeded to China, Gyal-tshan Kyab was discharged from the governorship. Ritsi Wang Gyalpo then became *t'hipon*, and received the title of Tai Situ. He was succeeded by Sonam Gyal-tshan, the grandson of Gyal-tshan Kyab, who performed the duties of *T'hipon*. He was very popular with his subjects. He was so very resolute that no one could oppose his views or outdo him in anything. He brought all Tibet under his sway. Situ Chyan-tshan, from his early age, became skilful in war, literature, and religion. At the age of fifty-five in the year *Water-monkey*, in the 15th of the second month, he undertook the task of rescuing the Sakya regent, Ponchen Gyal-tshang, who had been kept in durance by the abbot Lhakhong Labrangpa of the great temple of Sakya; and for this purpose he placed himself at the head of the troops of Ü and Tsang and waged war with Sakya. On the 5th of the fifth month of the same year, with the assistance of the minor chiefs, he besieged Sakya and delivered the chief from the hands of his enemies. Before dispersing his army he compelled the heirarch to appoint him as chief *t'hipon* of Tibet, and was supported by his nephew, Situ Lodoi Gyal-tsan,

in his works. He was presented with a hexagonal seal, and the people of Tsang distinguished him by raising white silken banners in his honour. He encouraged both literature and religion.

Chyañ-chub Gyal-tshan (the younger brother of Rinchen Tagyal) was born in the year *Tree-tiger* 1302, A.D. In the fourteenth year for his age (*Hare-year*) he took his admission into the monastery of Sakya, where he stayed with the heirarch Dag-nidchenpo. He was entrusted with the office of keeping the Government seal. Once the Grand Lama asked if he (Chyañ-chub) would go up for the church, so as to be called a Rinpoche, or for the State to be called *T'hipon* or governor. On his wishing to be a Rinpoche, the Grand Lama said, "No, you are destined for the State. In order to qualify yourself for a governorship you should study the work called 'Yul-Jyal' and some works on political ethics." Thereafter, taking leave of the Grand Lama, he became a pupil of Lama Nam-mé-chenpo and learnt the two parts of logic. In the autumn of *Tiger-year* Chyañ-Chub and his elder brother Lopon Tagzang were respectively invested with the temporal and spiritual offices. At the investiture, people were entertained with tea boiled in the same cauldron. Lopon Tagzang expounded the sacred laws and delivered sermons, while Chyañ-Chub assumed the dignity of *T'hipon* or governor.

When Chyañ-Chub became known all over the country, with the help of all other minor *T'hipon*, he besieged Sakya. He occupied Chya-zang-gang, which was then called Cha-zang-kang, and from some good action done in it, it became known by the name of Chyazang Jong (or the place of good action). During his reign the house of Lha-zig became very powerful. Having achieved many exploits in temporal matters, he (Chyan Chhub) resolved upon doing pious actions. He built the monastery of Tse-thang (Chethang) and established a college there. He made Nedong-tse the chief seat of government. Inviting the Grand Lama Sonam Gyal-tshan, he consecrated the religious establishment founded by him and appointed his cousin, Shakya Gyal-tshan, as the head of the church and president of the ceremonies to regulate the order of precedence. Thus the government of Phagmodn, for its efficiency both in temporal and spiritual matters, became very famous, and excelled those preceding it. At the age of 63, in the year *Fire-dragon*, he retired from this existence at the palace of Nedong (Gahdan-tse). His cousin, Cakya Gyal-tshan, succeeded him in the throne of Nedong-tse, and assumed both the spiritual and temporal affairs of the State. By his able administration of the church and the secular laws, he increased the prosperity and peace of Ü and Tsang. On account of his being ever thoughtful for the happiness of his subjects, he was praised by all men and called Jan Yang Cakya. The Tartar Emperor, Thugan Themur, conferred on him the title of Chang-kung. After his death, his younger brother Shakya Rinchen, became chief the *T'hipon* and filled the throne of Nedong-tse. He was very fond of inspecting the works of local officers and inquiring after the condition of his subjects. Once while on tour in Ü and Tsang, he

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stopped at the village of Gya-mo-Shong. Here the house that he and his party occupied, accidentally caught fire, which quickly spreading so surrounded him that he and his servants very narrowly escaped from being burnt. On his return he founded the monastery of Khartag Gonsar, and stayed there to avert the calamities that, according to his fortune-tellers, hung over him. He always roved from one place to another. Chyang-tag Chyan presided at the head of the State Church for a few years.

After Çakya Rinchen's death his younger brother, Tagrin, filled the throne of Nedong-tse. For some time the state affairs were in the hands of Gyal-tshan-Zang and his cousin. The control of the government remained with Chyan-ña till Gyal-tshan Zang, also called Tagrin, came in a state hide-boat from Gongkar to relieve him of the charge. He was succeeded by Tagpa Gyal-tshan, a boy of eleven, the son of Çakya Rinchen, in the year *Tree-bird*.

From his boyhood Tagpa Gyal-tshan took to athletic and intellectual exercises. When he advanced in age he began to show his ability and fortitude. Within a few years of his attainment of youth, he established his authority over all the governors of Ü and Teang. The Emperor Tā-Ming bestowed on him the decorations of *Konting Gushri* and *Tshan-ha Wang*, and presented him with a gold seal. He also from time to time received other titles of honour, besides kind instructions from the Emperor himself. Power, fortune, and wisdom were ever attached to him. His reign extended from the 11th to the 59th year of his age. The State under his rule progressed very much in wealth and prosperity. Of all the rulers of the Phagdu dynasty, his reign was the longest. He died at Nedong-tse in the 59th year of his age in the year *Water-mouse*.

From the foundation of Nedong-tse and Namgyal Jong of Yarlung by *T'hipon Dorjpal* in the year *Tree-tiger* to the present year *Tree-tiger* (1432 A.D.) 240 years have elapsed. Nedong-tse was therefore founded in the year 1192 A.D.

Another account of Chyañ-Chub Gyal-tsan and his successors.

In the year 1302 A.D. Chyañ-Chub Gyal-tshan, of the well known family of Lhazig, was born in the town of Phag-du in Central Tibet. After subjugating all the thirteen (*Thikor*) provinces of Tibet proper and also Kham, he had established his sway over Tibet. At the age of eighteen he was appointed to the command of 10,000 soldiers under orders from the Emperor of China. This sudden elevation excited the jealousy and enmity of the chiefs of Di-guñ, Tshal, Yažsañ and Sakya authorities, who spared no pains in devising means to ruin him. At last, they drove him to war. In the first battle he met with some reverses, but was victorious in the second. The war lasted for many years, when ultimately victory attended the arms of the chief of Phagdu, who captured almost all the hostile chiefs and threw them into prison. After

this discomfiture, the chiefs, nobles and Lamas of Ü and Tsang jointly petitioned the Emperor to degrade the upstart. But the irrepressible Chief proceeded to Peking; there, presenting the skin of a white lion, besides other rich and rare presents to Emperor Thugwan Thumer, he represented the circumstances connected with the case. Pleased with his sincere statements, the Emperor decided in his favour and appointed him hereditary noble of Tibet, assigning the whole of Ü to him with the exception of the province of Tsang which continued to remain under the heirarchy of Sakya.

After his return to Tibet from Peking, Chyañ-Chüb organized a regular form of government for Central Tibet. He reformed legislation, and revised the ancient laws and regulations. He built the castle of Nedoñg-tse and a large fortress with three gates to the ramparts. Inside it he founded a monastery. He endeavoured to observe the *Dasa Çila* (ten moral virtues). By his exemplary morals and pity, and above all by his beneficial rule, he won the sincere esteem of his subjects. He founded the town of Tse-thang with a monastery in it. He built thirteen forts such as Gongkar, Tagkar, &c. Later on, he induced the Tartar Emperor to confer on him the high distinction of Tâi-Situ together with authority over the whole of Tibet. By his able rule he increased the happiness and prosperity of his people.

The fourth in succession from him was Sakya Rinchen,¹ who became a favourite of the Emperor, by whom he was entrusted with the collection of revenue from one of the great provinces of China, and also with the charge of guarding the Imperial palace. Sakya Rinchen, instead of showing his gratefulness, took part in a conspiracy matured by the Chinese prime Minister named Kyen-Hün, to usurp the throne. He sent many wagons, loaded with armed soldiers, concealed under heaps of silk clothes under cover of darkness inside the imperial city. The Emperor, fortunately, having got scent of the matter secretly fled towards Mongolia. Sakya Rinchen proclaimed the minister's son, Li-Wang, as Emperor of China. Thus through the help of a Tibetan chief the Tâ-Ming dynasty was established. Yung Ming presented Tag-pa Gyal-tshan, son of Sakya Rinchen, with a gold seal and the additional possession of ulterior Tibet. He was made the undisputed sovereign of all Tibet, which extended from Nagah-rikor-sum to Sze-chuan. Tag-pa Gyal-tshan was succeeded by his son Wang-Jung-né, whose appointment was confirmed by the Emperor Kyen Tai Li-Wang. He built the fortresses of Hug-Yüg-ling and Karjong. His grandson, Rin Dorje, obtained the title of Wang (king) from China. Nag Wang Tashi was a very impartial and just ruler. He shewed great veneration for the Dalai Lama So-nam Gyatsho, whom he greatly patronized. The celebrated Dharma Raja named Padma Karpo of Bhutan was also a friend of his. He several times fought with his rebel minister Rinchenpûpa and was every time successful. He was decorated with the title of *Kua-tin Kau Sri* by the Emperor.

¹ Son of Rinchen Kyab.

During the reign of the Phagdu dynasty all Tibet enjoyed peace and prosperity. People became rich in money and cattle. The country enjoyed immunity from famine and murrain, and was not harassed by foreign invasion. Although, some petty fights and quarrels with some of the disaffected and rapacious ministers now and then disturbed the peace of the country, yet on the whole, the dynasty was beneficial to Tibet.



26. *Additions to the Collection of Oriental Snakes in the Indian Museum, Part 3.* (With 3 figures).—By N. ANNANDALE, B.A., D.Sc., Deputy Superintendent of the Indian Museum.

The present communication deals with a miscellaneous assemblage of specimens, and completes for the present my notes on recent additions to the collection, all the Oriental species having now being worked out and arranged¹. Four new species and a new genus are described below, two of the former coming from the Malay Archipelago, one from N. E. India, and one from Gilgit. Considering the number of individuals examined, this does not represent a large percentage of novelties; and although new forms will certainly continue to be discovered from time to time in the remoter districts of the Indian Empire, it is clear that we now have a good general knowledge of the systematic ophiology of the country. The addition of a second species of *Helicops* to the fauna of Asia is interesting, while one of the new Malaysian forms is a good example of superficial resemblance, if not of "Mimicry." A new *Typhlops* and a new *Ablabes* have no particular importance, but must be recorded in order to complete the list.

In regard to doubtful specimens, I have made it a practice to dissect out the jaws on one side. This seems to me to be the only way in which it is possible to ensure a satisfactory view of the dentition. The operation can be performed without materially damaging the specimen externally, and if the bones are preserved in a small tube stoppered with cotton wool in the bottle in which the specimen is kept, they are available for future study.

TYPHLOPIDÆ.

TYPHLOPS MULLERI.*

A specimen from the Malay Archipelago is mottled on the dorsal surface of the posterior part of the body with dull yellow, the remainder of the back and sides being brown instead of black; but the latter peculiarity may be due to imperfect preservation.

TYPHLOPS KAPALADUA,* sp. nov.

Diagnosis.—Habit stout; length about 27 times diameter of body; tail much broader than long, ending in a spine; snout obtuse, the sides rounded, moderately projecting. Rostral between $\frac{1}{3}$ and $\frac{1}{2}$ as broad as head, reaching the level of the eyes behind, separating the nasals completely. Nostril lateral, almost visible from above, with a single large subcircular pit embracing the nasal cleft beneath it; nasal completely divided, the cleft starting from the

¹ Since this sentence was written I have obtained some further additions to the collection in the desert tract of S.E. India. They will be described in a later communication to the Society. September 16, 1905.

second labial, not reaching the upper surface of the head. Supra-oculars large, frontal and parietal feebly developed. A præocular; no subocular; the former larger than the ocular, in contact with the second and third labials; eye barely distinguishable. Twenty-six scales round body. *Coloration*—Upper surface olive-brown, each scale paler at the edge; upper head scales broadly edged with yellow, a yellow \square on the snout and a wedge-shaped mark of the same colour behind each eye; lower half of the rostral and labials and the whole of the lower surface, yellow.

Total Length.—280 mm.

A single specimen from the Malay Archipelago, probably from Java.

TYPHLOPS ACUTUS.

This species appears to be commoner than any other in Calcutta. It is sometimes found in native houses. I have lately had an opportunity of observing living specimens. When placed in a vessel with earth at the bottom they burrowed very rapidly, provided that the earth was not too hard, forcing their way down by muscular action of the anterior part of the body and making a passage no broader than their own diameter. I failed to see them feed, but have reason to think that they eat the earthworms with which they were supplied, at night. When taken in the hand they coiled round one of the fingers and pressed the tip or side of their hooked and pointed snout against the skin. They could do no injury in this way to the human skin, but seemed rather to be attempting to get a grip. Probably this peculiar modification may be useful in restraining captured worms and it is worthy of note that the caudal spine present in a larger number of the Typhlopidae is absent both in this form and in several exotic species in which a beak is developed.

GLAUCONIIDÆ.

GLAUCONIA BLANFORDII.

G. blanfordii, *Alcock and Finn, J.A.S.B.*, 1896, (2), p. 561.

In addition to the specimens recorded by Messrs. Alcock and Finn, we have received during the last few years others from Quetta (*Majur G. O. Nurse*); Khotri, Sind (*Bombay Nat. Hist. Soc.*), and Bushire, Persia (*Karachi Mus.*). The relative diameter of the body varies considerably, but the number of the scales round it appears to be constant. Well preserved specimens have the upper scales feebly edged with pale-brown.

COLUBRIDÆ.

CALAMARIA LEUCOCEPHALA.*

Two specimens from the Malay Archipelago, one from Java.

DROCALAMUS TRISTRIGATUS.*

A small specimen of this rare snake from the Malay Archipelago.

TROPIDONOTUS KHASIENSIS.*

A specimen, probably from Burma, obtained by one of the Museum collectors.

MACROPISTHODON HIMALAYANUS.

Tropidonotus himalayanus, *Boulenger, Faun. Ind., Rept.*, p. 347.

Dissection of the jaws of a specimen lately received from Sureil, Darjeeling, (*Major A. Alcock*) shows that this species belongs to the genus *Macropisthodon*. Fourteen small teeth are followed in the maxillary, after an interspace, by two large, backward-directed fangs. In *T. subminiatus*, the condition is somewhat similar, but the interspace is not so clearly marked. Evidently the separation between the two genera is not a natural one, but the great number of forms included in *Tropidonotus*, in which I would propose to leave *subminiatus*, makes it convenient.

COLUBER RADIATUS.

A specimen from Cuttack, Orissa, (*B. T. Oughton*). I am not aware that the species has hitherto been recorded from this part of India. The late Prof. J. Wood-Mason corresponded with the donor about the specimen, which has been in the Museum for many years; but it appears to have been mislaid at the time when Mr. W. L. Sclater was compiling his *List of Snakes*.

ABLABES BALIODIBUS.*

Specimens from Java and the Malay Archipelago.

ABLABES GILGITICUS,* sp. nov.

Diagnosis.—Habit slender; head small; tail short, ending in a well developed spine.¹ Rostral deeper than broad, visible from above; nasal divided; eye half as long as snout; præfrontal undivided, its length much greater than that of the sutures between the internasals; frontal as long as its distance from the snout, much shorter than the parietals; one præ- and one postocular; loreal large, much longer than deep; temporals 1+2; 7 upper labials, third and fourth entering eye; 4 lower labials in contact with the anterior chin shield, which is larger than the posterior. Scales smooth, in 15 rows; ventrals 158; anal entire; caudals 34. *Coloration*—Back and sides dark brown, each scale edged, spotted

¹ A similar spine occurs in other members of the genus, notably *A. rappii* but is not so large in any Indian form as in the new species.

or blotched with pale yellow; ventral surface paler brown; a broad yellow collar; nape, labials, chin and throat, yellow.

Dimensions—

Total Length	...	...	125 mm.
Length of Tail	...	...	18 „

A single specimen from Gilgit, collected and presented by Capt. McMahon.

This species may be distinguished from any other Indian *Ablabes* by its extremely short tail. It has much the facies of a *Calamaria*.

HELICOPS INDICUS, sp. nov.*

Head flat, rather viperine; snout obtuse; canthus rostralis well marked. Eye not more than half the length of the frontal; pupil very small. Rostral much broader than deep, well visible from

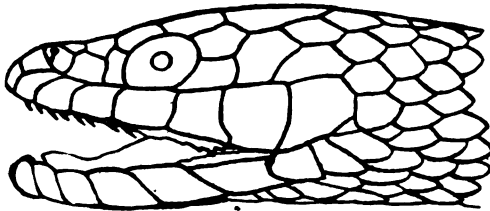


Fig. 1.

Helicops indicus.

above, separated from the internasal, which is undivided; frontal more than twice as long as broad, obtusely truncated in front, sharply pointed behind, slightly longer than its distance from snout and than the parietals; loreal deeper than long; one præocular, two postoculars; temporals 1+2; 7 upper labials, the fourth entering eye; three lower labials in contact with the anterior chin shield, which is shorter than the posterior. Scales smooth, in 21 rows; ventrals 161; anal entire; sub-caudals 72. *Coloration*—dark brown above; on each side of the dorsal surface a pale line originates at the posterior border of the parietal and runs along the body and tail. Ventral surface dull yellow reticulated more or less distinctly with dark brown; a dark spot in the centre of each ventral shield. Labials dull yellow marbled with dark brown.

Dimensions—

Total Length	.....	...	200 mm.
Length of Tail	...	...	40 „

Localities—

Monghyr, Bengal, and Rampore Tea Estate, N. Cachar. Two specimens, both purchased.

H. indicus may be distinguished from *H. schistosus*, the only other Asiatic species, by its viper-like head, small eye and smooth scales. As possibly the type specimens are immature, the coloration may be more uniform in the adult than that described.

The following is a "Key" for the two Indian species :—

1. Diameter of the eye more than half the length of the frontal.
Scales keeled, in 19 rows *schistosus*.
2. | Diameter of the eye not more than half the length of the frontal.
Scales smooth, in 21 rows; nasals in contact behind the rostral *indicus*.

The distribution of the genus *Helicops* is very interesting. Species occur in Tropical Africa; in S. and E. India, Burma, Ceylon, Malaya and Yunnan; in Florida, Central America, the West Indies, and S. America east of the Andes. The similarity between this distribution and that of the Cæcilian genus *Herpele*,¹ which has recently been elucidated by Alcock, is striking. I may point out that one of the types of *Helicops indicus* is from the same locality and collection as that in which the type of *Herpele fulleri* was found. This fact, seemingly trivial in itself, illustrates the improbability of convergence or parallel development being the explanation of all such difficulties in the study of the distribution

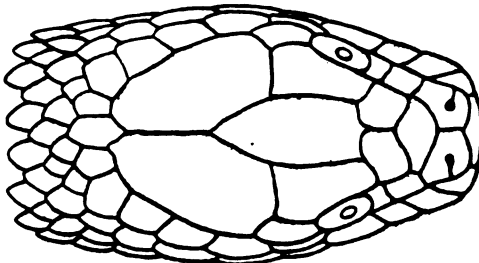


Fig. 2.

Helicops indicus.

of animals; for both *Helicops* and *Herpele* are well defined and apparently natural genera, having no peculiarity in common with one another superficially or anatomically.

DIPSADOIDES, gen. nov.

Family Colubridæ; *sub-family* Dipsadomorphinæ.

Head distinct from body; eye large, with circular pupil; body

¹ *Ann. Mag. N. H.* (xix), 1904, p. 267.

[N. S.]

strongly compressed, with dorsal row of scales enlarged throughout, scales in rows of uneven numbers (19 in type), with apical pits; caudals divided. Palate toothed; solid maxillary teeth few (6 in type), subequal, followed, after a short interspace, by a pair of moderately sized, almost vertical grooved fangs; mandibular teeth subequal.

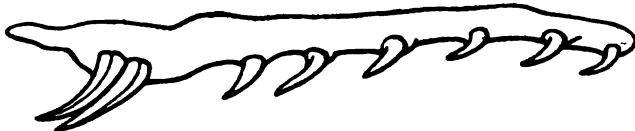


Fig. 3.

Right maxillary of *Dipsadoides decipiens*.

DIPSADOIDES DECIPIENS,* sp. nov.

Head small, flattened, very distinct from neck; snout short, obtusely rounded; eye prominent, nearly as long as snout; nostril large, directed backwards, in undivided nostril. Tail slender, tapering. Rostral broader than deep, just visible from above. Internasals larger than præfrontals; frontal longer than broad, as long as its distance from snout, slightly shorter than parietals; a large præocular and a small postocular; supraocular very large; loreal deeper than long; temporals 2 + 2; eight upper labials, the third, fourth and fifth entering the eye; two large subequal chin shields, the anterior in contact with four labials, both in contact with their neighbours. Body scales narrow, leaf-shaped, slightly oblique on neck, strongly imbricate; in 19 rows; the dorsal row enlarged throughout, broader than long. Ventrals rounded at the edge, keeled at either side, 258 in number; anal entire; caudals 152. *Coloration*—dorsal surface and sides pale brown profusely spotted and marbled with dark brown and, less profusely, with dull yellow; a large number of irregular dark bars on the dorsal surface. Ventral surface dull yellow marbled posteriorly with dark brown; chin and throat spotted with dark brown.

Dimensions—

Total Length	...	...	900 mm.
Length of Tail	...	...	265 „

Habitat. Malay Archipelago. A single specimen.

This remarkable snake was confused at first sight with some specimens of *Dipsadomorphus cynodon* in the same collection to which it bore a close external resemblance. It is one of the many interesting species received from the Royal Natural History Society of Batavia.

BUNGARUS SINDANUS*, Blgr.

B. sindanus, *Boulenger, Journ. Bombay N. H. Soc. XI, 1897-1898, p. 73, pl.*

A specimen $6\frac{1}{2}$ inches long has lately been sent to the Museum from the Zoological Garden, Alipore. The Superintendent of the Gardens tells me that it was captured at Midnapore, Lower Bengal, by a reliable collector and arrived at the Gardens early in 1896. It must, therefore, have lived in captivity for nine years. The Giant Krait, as this species may be called, has hitherto been recorded only from Sind, but probably occurs, somewhat sparingly, all over northern India.

27. *Note on the Kantābudiyās of Cuttack.*—By JAMINI MOHAN DAS.
Communicated by the Anthropological Secretary.

The Kantābudiyā caste numbers less than one thousand persons, and is confined to the Cuttack District. The family titles are Khuntiyā, Parirā, Nāyak, Lenkā, Sāhu, Baru, Behārā, Rāut, and Mahānti. Most of these are also titles of the Khandaits and Chāsās, and the Kantābudiyās may have been degraded from one of these castes because they took to the occupation of dealing in tobacco. The members of the caste claim that it is an offshoot of the Khandait caste. They use the same *Santak* or signature mark as the Khandaits—the *Kat̄ri* or dagger. Like the Khandaits, they assume the sacred thread at marriage, but unlike them, they only wear it for eight days and not permanently. They account for their name by a legend that they are the descendants of a foundling who was abandoned near a thorny bush (*Kantābudā*) but tradition does not give any further particulars as to his origin or history. The caste is divided into two totemistic *gotras*, Kacchap and Nāgasa, the members of which revere the tortoise and the cobra respectively. These groups are neither endogamous nor exogamous. There are no endogamous groups within the caste. The exogamous limit is formed by the family title. A Khuntiyā for instance may marry a Parirā but not another Khuntiyā. Similarly, a person may not marry into a family which bears the same title as his maternal grandfather.

Widow re-marriage is allowed. Divorce is permitted on the ground of unchastity. There is nothing to prevent the re-marriage of a woman who has been divorced, if any one will take her. Polygamy is not practised unless the first wife is barren or suffers from an incurable disease.

The Kantābudiyās belong to the Vaisnava sect. Adhikāri Brāhmins act as their priests, and Brāhman and Karan Vaisnavas as their *gurus*. In all essential respects they follow the marriage customs of the Khandaits and Chāsās.

Persons who die before marriage are buried. Others are buried or burned according to convenience. Mourning continues for ten days and the *Srad̄dha* is performed on the eleventh day.

The traditional occupation of the caste is dealing in tobacco and turmeric, but about half of the members now combine agriculture with it. There is no organised caste council; meetings of the caste are presided over by the most learned or intelligent member present.

In the matter of food and drink, the Kantābudiyās follow the customs of the Khandaits and Chāsās, who will not, however, take any food from them. The higher castes will not take their water, but they are served by the barber and washerman. The *Gauras*, however, will neither carry their *palkis* nor eat in their houses, and this alone is sufficient to show that they rank lower than the Khandaits and Chāsās. As a consequence of this custom, the Kantābudiyā bridegrooms walk on foot in their marriage processions.

28. *Dignāga and his Pramāṇa-samuccaya.*—By SATIS CHANDRA
VIDYĀBHÜṢAṆA, M.A.

Hindu philosophy is divided into six principal systems of which the Nyāya is one. This Nyāya again is divided into two schools called respectively the ancient Nyāya and modern Nyāya. The distinction between the two schools is this: the ancient Nyāya treats of atoms, properties of atoms, souls, the transmigration of the soul, mind, God, etc., as well as of processes of perception, inferences, and the like, while the modern Nyāya deals only with the methods of perception, inference, etc. The object of the ancient Nyāya is to explain the means of salvation, while that of the modern Nyāya is to give an exposition of the fundamental principles of reasoning. This shows that the ancient Nyāya is a mixture of physics, metaphysics, theology, logic, etc., while the modern Nyāya is exactly identical with what we understand by the term logic.

As this modern Nyāya is the most favourite and honoured subject of study in the Sanskrit *toles* (academies) of Bengal, it is worth while to trace its origin. There can be no doubt as to the modern Nyāya having been developed from the ancient Nyāya, but nothing can be definitely stated as to how and when it was so developed. The first extant work on ancient Nyāya is undoubtedly Gotama's Nyāya Sūtra dated about 500 B.C., but we do not know definitely what was the first work on modern Nyāya.

It was for a long time the universal belief of the Paṇḍits of our country that the Pramāṇa-cintāmaṇi, compiled by Gaṅgeśa Upādhyāya of Mithilā in the 14th century A.D., was the oldest work on modern Nyāya. But this belief of the Paṇḍits was shaken nearly sixteen years ago by Professor Peterson, who published under the auspices of the Asiatic Society of Bengal a Buddhist Sanskrit work on modern Nyāya, called Nyāyabindu, by Dharmakīrti. This work, which was dated the 7th century A.D., at once showed that Gaṅgeśa Upādhyāya's Pramāṇa-cintāmaṇi could not have been the first work on modern Nyāya. Recently another revolution has been caused in our theories by the literary collection of the late Tibet Mission. The Mission has brought from Gyantse the Tibetan version of another Buddhist Sanskrit work on modern Nyāya, called Pramāṇa-samuccaya, compiled by the Buddhist logician Dignāga who flourished long before Dharmakīrti. The Sanskrit original of this work is not available in India or Nepal and has perhaps been lost. But the Tibetan version and numerous authoritative commentaries on the same show in unmistakable terms that this work is the earliest at present known work on modern Nyāya.

In Tibetan there are numerous treatises on logic by various Indian Buddhist authors. These treatises are contained in the Tangyur, section Mdo, volumes 95-116. There the first work on

logic is *Pramāṇasamuccaya* by *Dignāga*. The next work is *Pramāṇa-vārtika-kārikā* (or a commentary in verse on the above). Then follows *Pramāṇa-vārtikālaṅkāra*, and so on. *Jinendrabodhi's* excellent commentary on the *Pramāṇa-samuccaya*, called *Viśālāmalavati-nāma-Pramāṇa-samuccaya-ṭīkā*,¹ is also to be found there. *Nyāyabindu*, *Pramāṇa-viniścaya* and other excellent Buddhist works on logic are also preserved there. The *Tangyur*, containing all these works, has been brought from Gyantse by the Tibet Mission, and is now deposited in the British Museum, London. Nearly eighty years ago another set of the *Tangyur* was brought from Tibet by the late Mr. B. H. Hodgson. That set is now contained in the library of the India Office, London. These excellent and old works on logic lead us to conclude that the credit of having founded the modern *Nyāya* must be attributed to the Buddhists, among whom there were numerous logicians such as *Dignāga*, *Dharmakīrti*, *Dharmottara*, *Vinitadeva*, *Sāntabhadra*, *Akalaṅkadeva*, *Jinendrabodhi*, *Kamalaśīla* and others. These Buddhist writers had flourished long before the Brāhmaṇic logician *Gaṅgeśa Upādhyāya* compiled his *Pramāṇa-cintāmaṇi*.

The circumstance which led the Buddhists to forsake the ancient *Nyāya* and to lay the foundation of a new system called modern *Nyāya* was due to the peculiarity of the religion which they professed. Having considered the sixteen categories treated in the ancient *Nyāya* to be redundant and some of them as mainly based on the orthodox principles of the Hindus, the Buddhists took up only one category, viz., *Pramāṇa* (evidence of knowledge), and treated it in such a way that the doctrine of evidence might be equally applied to the religious systems of the Hindus and Buddhists. The attempt on the part of the Buddhists to divest the principles of logic from those of theology, metaphysics, etc., was the cause of the foundation of the modern *Nyāya*, otherwise called *Tarka-śāstra* or Logic proper.

As *Pramāṇa-samuccaya* (Tibetan: ཚད་སྐད་བསུམ་) is the

Life of *Dignāga*. earliest-known work on the Buddhist *Nyāya*, a short account² of its author may be of some interest to the reader. *Dignāga* (Tib. *Phyogs-glañ ཕྱོགས་གླང་*) the celebrated author of this work, was born in a

Brāhmaṇ family in the south near the country of *Kāñci* bordering on the city of *Siphavakta*, and acquired vast knowledge in all Tirtha systems. By *Nāgadatta* the Paṇḍit of the *Vātsīputriya* school he was admitted to the religious system of that school and

¹ This work (together with the Tibetan version of the *Nyāya-bindu-ṭīkā*, *Candra-vyākaraṇa* and *Tārā stotra*) has been kindly lent to me for six months by the Government of India.

² Vide དཔལ་བསམ་ཕྱོགས་བསུམ་ *Pag-sam-jon-zang* (pages 100-101), edited by *Rai Sarat Chandra Das*, Bahadur, C.I.E., and *Lama Tārānātha's Buddhism*, Schiefner, pp. 130-135.

attained erudition in the Tripiṭaka of the Śrāvaka. Afterwards he became a disciple of Ācāryya Vasubandhu, with whom he studied all the Piṭakas of the Mahāyāna and Hinayāna. When he had specially obtained incantation formula from a mantra-knowing Ācāryya and practised sorcery, he saw the face of Muñjūri and learned the *dharma* (Law) from him. He resided in a solitary and woody country in the land of Orissa in a cavern of a mountain called Bhoraśila, and gave himself entirely up to contemplation.

A few years later he was invited at Nālanda, where he defeated the Brāhman Sudurjaya and other Tirtha dialecticians and led them into the doctrine of Buddha. He expounded many Sūtras to the religious body, spread the Abhidharma, and composed several logical and dialectical Śāstras. He is said to have composed one hundred śāstras in all. Returning to Orissa he busied himself with contemplation. Seeing that the Śāstras on Dialectics, composed earlier by him, remained scattered about, he resolved to collect them. Accordingly, putting together

fragments from particular works, he engaged himself in compiling the Pramāṇasamuccaya (Tib. Tshad-mahi-ydo-kun-laṣ-ḥtuṣ-pa, or simply, Tshad-ma-kun-ḥtuṣ) in which at the opening lines he pays obeisance to Buddha :—

ཚད་མར་གུར་བའ་གྲོལ་ཕན་བྱེད་པ།

སྟོན་བའདེ་གཤེགས་སྐྱོབ་ལ་ཕུག་འཚལ་ནས།

“Having bowed down before Him who is Logic incarnate, the benefactor of all creatures, the teacher, Sngata and the protector.”...

While he was writing the opening lines the earth trembled and all the places were filled with light and a great tumult was audible. A Brāhman named Ísvara Kṛṣṇa,¹ surprised at this wonder, came to Ācāryya Dignāga, and, finding that he had gone out to collect alms, wiped out the words he had written. When in this manner he had wiped them out twice, Dignāga wrote them a third time and added—“Let no one wipe this out even in jest and sport, for none should wipe out what is of great importance; if the sense is not right and one wishes to dispute on that account, let one appear before me in person.” When, after he had gone to collect alms, the Brāhman came to wipe out the writings and saw what was added, he waited. When the Ācāryya had returned they began controversy, either staking his own doctrine. When he had vanquished the Tirtha several times and challenged him to accept the Buddhist doctrine, the Tirtha scattered ashes, pronounced incantation formula on them and burnt all the goods of the Ācāryya;

¹ Kṛṣṇ-Ísvara, or simply Kṛṣṇa, seems to be the same as Ísvara Kṛṣṇa, the celebrated author of Sāṃkhya-Kārikā, which was translated into Chinese by Paramārtha, A.D. 557-56¹, noticed in Nanjio's Catalogue, No. 1300. The Tibetan name is རྒྱལ་པོ་ཤིབ་ལྷུ་མ་ = Kṛṣṇa-Ísvara.

and when the Ācāryya was kept back by the conflagration the Tirtha went away. Thereupon Dignāga reflected that when he could not work the salvation of this single individual he would not be able to work that of others, and was on the point of giving up his purpose (of compiling *Pramāṇa-samuccaya*). Āryya Mañjuśrī appeared to him in person and said :—

བྱམ་བྱེད་མ་བྱེད་སྐྱེ་བོ་དམན་དང་འཕྲད་ལས་སློབ་གྲོས་ངན་སྐྱེ་ལྟེ།
 བྱིད་ཀྱི་བསྟན་ནས་འཚོས་འདི་ལ་སྤྱི་ལྟེ་ལས་ཚོགས་ཀྱིས་གཞོན་མི་རུས་པར་
 ཤེས།

བྱིད་ཀྱིས་ས་མ་ཐོབ་ཀྱི་བར་དུ་དགོ་བའི་བཤེས་སྤྱང་འགྲུར་གྱི།
 སྤྱི་མའི་དུས་སྤྱི་བསྟན་བཅོས་ཀུན་གྱི་མིག་གཅིག་དུ་ནི་འདི་འགྲུར་རོ།།

“Son, don't do so, don't do so: owing to contact with a low person there has arisen a bad thought in thee: know that the Tirtha crowd cannot harm this Sāstra of thine: since I shall remain thy spiritual adviser until thou attainest perfection, this Sāstra will henceforth become the sole eye of all the Sāstras.”

The Ācāryya asked :—

བཟོད་ཀའི་སྤྱི་བསྟན་ལ་དུ་མ་དང་ལྷན་བཞག་དཀའ་ལ།
 མེས་ས་ཀྱང་དམ་པ་མིན་པའི་སྤྱོད་པ་ལ་དགའ་ཞིང་།
 སྐྱེ་བོ་དམ་པ་འཕྲད་དཀའ་གཤམ་དེ་བྱིད་ཀྱི་ཞལ་མཐོང་ཡང་།
 བདག་ལ་བྱིན་གྱིས་ས་བརྒྱབ་སའི་ལ་ཅི་བགྱིད་མཚི།

“If I am to suffer many unbearable misfortunes and have to rejoice in the practice of an ignoble being, and if it is difficult to meet with a noble one, what profits it to me to see thy countenance if thou dost not bless me?”

Mañjuśrī replied, “Trouble thyself not, I will protect thee from all terrors,” and disappeared. Thereupon Dignāga completed the Sāstra.

Once he was slightly ill and obtained alms from the city; and having fallen asleep while staying in a forest he dreamed a dream. In that dream he saw the face of many Buddhas and attained many *samādhis*. He saw many gods pouring rain of flowers, and the flowers of the wood coming together before him and the elephants affording him cool shade. The king of the country, who had gone for a pleasure excursion with a troop, saw him and, full of admiration, he caused him to be awakened from sleep by the notes

of music. Being asked whether he was Dignāgn, he replied in the affirmative, and the king fell at his feet. Subsequently he travelled to the south, chiefly meeting his Tirtha controversialists in discussions.

He restored, for the most part, the schools of religion founded by the former Ācāryyas. Again, at Orissa, he converted to Buddhism Bhadrāpālita, the treasury minister of the king. This Brāhman founded sixteen vihāras and placed religious men in them. As a proof of the perfect purity of his character, the stem of a Myrobalan tree, called Muṣṭiharitakī, which cured all diseases and which was to be found in the garden of this Brāhman, having been entirely withered, revived in seven days after the Ācāryya had uttered an incantation for its restoration.

Since he had refuted chiefly the Tirtha controversialists, he was called the "Fighting Bull" (Sanskrit : *Tarkapūṅgava* ; Tibetan :

རྩོད་བཞི་བྱ་སྟོན།) His pupils, combined together by religion, filled

all countries, but he had not with him a single *Sāmañera* who could succeed him. Since he was a man of limited desires and contentment, he performed during his life-time the twelve tested virtues and died in a solitary wood of Orissa.

In the works of the Chinese pilgrims the name Dignāga is not mentioned at all. But there occurs the name Jina, which I suppose to be identical with Dignāga.

Dignāga in the Brāhmanic works, especially in those of Udyotakara and Vācaspati Miśra, is designated as a Bhadanta. Similarly Jina in Chinese books, specially in those of I-tsing, is mentioned as one of the ten Bhadantas (*vide* I-tsing's *Takakusu*, p. 181). As Dignāga in Sanskrit and Tibetan books is known as an eminent logician, so is Jina in Chinese books. Thus I-tsing observes (*Takakusu*, p. 184) :— "When they have understood the arguments of Hetuvidyā (logic), they aspire to be like Jina (the great reformer of logic). I-tsing continues (*Takakusu*, p. 188) :— "When a priest wishes to distinguish himself in the study of logic he should thoroughly understand Jina's eight Śāstras." These, according to I-tsing, are :—

1. The Śāstra on the Meditation of the Three Worlds (not found).
2. Sarva-lakṣaṇa-dhyāna-śāstra (kārikā)—(Nanjio's Catalogue, No. 1229).
3. The Śāstra on the Meditation on the Object. Probably Ālambana-pratyaya-dhyāna-śāstra (Nanjio's Catalogue, No. 1173).
4. The Śāstra on the Gate of the Cause (Hetu-dvāra)—(not found).
5. The Śāstra on the Gate of the Resembling Cause (not found).
6. The Nyāya-dvāra (tāraka) Śāstra (by Nāgārjuna ?)—(Nanjio's Catalogue, Nos. 1223, 1224).

7. Prajñapti-hetu-saṅgraha (?) Śāstra—(Nanjio's Catalogue, No. 1228).
8. The Śāstra on the grouped inferences (not found).

The seventh book, called Prajñapti-hetu-saṅgraha, compiled by Jina, seems to be identical with Pramāda-samuccaya which, besides ninety-nine other works, was compiled by Dignāga.

According to I-tsing (*Takakusu*, p. 182) Dharmakīrti made a further improvement in logic after Jina. From Indian sources too (such as from Nyāya-bindu) we know that Dharmakīrti was a distinguished successor of Dignāga and a commentator on his works (vide K. B. Pathaka's article on the authorship of Nyāyabindu in the *Journal of the Bombay Branch of the Royal Asiatic Society*, 1895, Vol. XIX, No. LI, pp. 47-57; also G. A. Jacob's Note on the authorship of Nyāya-bindu in the *London Royal Asiatic Society's Journal*, April 1905, pp. 361-362).

Hwen-thsang (vide Beal's *Buddhistic Record of the Western World*) mentions Jina as having been born in the country of Andhra in the south. We have already seen that Dignāga was born near the country of Kāñci in the south, probably in the dominion of the Andhras.

The facts stated above go to show that Dignāga and Jina were the same person. As a matter of fact Jina seems to be only a Chinese phonetic equivalent for Dignāga.

So it appears that *Dignāga* (Tibetan: phyogs-glañ) was variously named as *Jina* (victor) *Bhadanta*¹ (a venerable monk) and *Ācāryya* (as in Nyāyabindu, the Tibetan equivalent being Slob-dpon). He was also called *Mahādignāgārjuna* (vide Eitel's *Dictionary of Chinese Buddhism*), and is thus often mistaken for Nāgārjuna. This explains the fact that Nyāya-dvāra-tāraka-śāstra, really composed by Dignāga, has been attributed to Nāgārjuna. Dignāga also bore the title of *Tarkapūṅgava* (a fighting bull); while his Brāhmanic opponents gave him the title of *Ku-tārkika* (a quibbler).

Besides the allusion to Dignāga in Kālidāsa's *Meghadūta*² we come across several of his actual views criticised by such eminent authorities as Udyotakara, Vācaspati Miśra and others.

Brāhmanic references to Dignāga.

¹ The word *Bhadanta* in the vocative case assumes the forms *Bhaddanta* and *Bhante*. Compare अद्भ्यस्तु अद्भ्य भन्ते (१-४-३५) Kācōyana, p. 141, edited by Satis Chandra Vidyābhūṣaṇa. A junior monk should address a senior monk by calling him *Bhante* or *Āyasmā*. So Buddha says:—अद्भ्यस्तु भिक्षुणा वेदन्तो भिक्षु भन्तेति वा आचक्षति वा बहुदाचरित्तयो (Mahāparinibbānasutta, Bhāṣavāra, 6)

² अग्नेः इन्द्रं हरति पवनः किंलिदित्यमुषोभिः
वृद्धोत्याहश्चित्तचित्तं मुग्धसिद्धाङ्गनाभिः ।

Udyotakara in his *Nyāya-vārtika*¹ mentions Dignāga under the name of Bhadanta, and describes him as a *Ku-tārkika*. Vācaspati Mīśra, in his *Tātparyāṭikā*² on the *Nyāyavārtika* has identified Bhadanta with Dignāga, has mentioned Dignāga by name and has tried to justify his appellation *Ku-tārkika*. Dignāga's definition of *Pratyakṣa* (perception) has been mentioned by Udyotakara and Vācaspati Mīśra³ thus:—प्रत्यक्षं कल्पनापीडम् । “Perception is (intuitive and therefore) exempt from reflection.”⁴

आगादस्मात्परमनिष्ठुणादुत्पत्तीदृष्टमुखः खं
दिङ्नामानां पथि परिहरन् खूनहस्तावेषाम् ।
(मेघदूतम्, पूर्वमेघः, १४) ।

The commentator Mallinātha says that *Dignāga* referred to in this verse was the Buddhist philosopher of that name.

। बदक्षपादः प्रवरो मुनीनां
इमाव शास्त्रं जगतो जगाद् ।
कुतार्किकज्ञाननिवृत्तिहेतुः
करिष्यते तस्य मया निबन्धः । (न्यायवार्तिक, पृ: १,

edited by Vinhyesvari Prasāda Dube, in Bibliotheca Indica series).

² यद्यपि भाष्यज्ञता कृतकृत्यादनमेतत् तथापि दिङ्नामप्रभृतिभिर-
वाचोनेः कुहेतुसन्तमस-समुत्थापनेन आच्छादितं शास्त्रं न तत्परिनिर्वाह
यत्परिनिर्वाहोत्तरेण सविबन्धोद्गोतेन तदपनीयते इति प्रबोधनवानव-
मारम्भ इति । P.1, *Nyāyavārtika-tātparyāṭikā*, edited by Gangādhara Śāstri.

अपरे तु मन्थने प्रत्यक्षं कल्पनापीडमिति । अथ केयं कल्पना नाम
जातियोजनेति । यत् किञ्च न नास्ति अभिधीयते न च जात्यादिभिर्धैय-
दिङ्गते विनयस्युपायुविधायि परिच्छेदकमात्मसंवेधं तत् प्रत्यक्षमिति ।
... अत्रास्य वाक्यस्य कोऽर्थो यदि प्रत्यक्षं व्याघातः कथं प्रत्यक्षं कल्पना-
पीडमिति ज्ञानेन वाक्येन अभिधीयते न चाभिधेयमिति कोऽर्थो मदन्ताद्
वस्तुमर्हति ।

(न्यायवार्तिक, १-१-४, पृ: ४२-४४) ।

नहि यथा सम्यग्ज्ञानमधिकृत्य प्रत्यक्षादिषुक्षयं कृतं कौर्त्तिना
तथा दिङ्नामेन वैवाधिकारान् ज्ञाने अवतिष्ठेत कल्पनापीडमिति भावः ।
(न्यायवार्तिकतात्पर्यटीका, १-१-४, पृ: १०२) ।

⁴ The same definition of *Pratyakṣa* (perception) occurs in Dignāga's *Pramāṇasamuccaya*. Compare the Tibetan version of the *Pramāṇasamuccaya* in the *Tangyur*, section *Mdo*, volume XCV, fol. 2a, quoted by Prof. De La

Regarding *anumāna* (inference)¹ Dignāga, according to Udyotakara and Vācaspati, says:—By seeing smoke, we do not, as it has been usually asserted, infer two things—*viz.*, (1) fire, and (2) the connection between fire and the place which is the abode of fire; but we infer only one thing—*viz.*, the place as containing the fire.

Udyotakara and Vācaspati further inform us that Dignāga did not accept *upamāna* (comparison)² and *āptavacana* (testi-

Vallee-Poussin in the *Museon*; *vide* Prof. Poussin's *Extrait du Museon*, p. 58.

The definition runs as follows:—*अदेकं सुमर्कं क'प'द'द'द'प्र'प'य'म' ।*

१ किं पुनः अनेन धमेन प्रतिपद्यत इति किमप्रिमं उत देशम् उत सत्ता उताप्रिमन्तं देशम् । अप्रिमान् देश इति चेत् न धमस्य अतद्गर्भत्वात् (न्यायवार्तिक, १-१-५, पृ: ५२) ।

अत्र दिङ्नागेन ध्मादप्रिरूपधर्मान्तरानुमानम् अप्रिदेशयोः सम्बन्धानुमानं च दूषयित्वा अप्रिविशिष्टदेशानुमानं समर्धितम् तथा चाह ।

केचिद् धर्मान्तरं मेयं लिङ्गस्याव्यभिचारतः ।
 संबन्धं केचिदिच्छन्ति सिद्धत्वाद्गर्भधर्मिणोः ।
 लिङ्गं धर्मे प्रसिद्धं चेत् किमन्यत् तेन मीयते ।
 अथ धर्मिणि तस्यैव किमर्थं नानुमेयता ।
 संबन्धेऽपि ह्ययं नास्ति बद्धो अयते तद्वति ।
 अवाच्योऽनुगृहीतत्वान्न चासौ लिङ्गसङ्गतः ॥

(न्यायवार्तिक तात्पर्य टीका, १-१-५, पृ: १२०) ।

२ प्रत्यक्षागमाभ्यां नोपमानं भिद्यते । अथमिति । यदा तावुभौ जोगवयौ प्रत्यक्षेण पश्यति । तदा ह्ययमनेन सारूप इति प्रत्यक्षतः प्रतिपद्यते । यदापि श्रद्धयोति यथा गौरेवं गवय इति तदास्य श्रद्धयत एव बुद्धिबपत्रायते केचिद् गोधर्मा गवये अन्वयिन उपलभन्ते केचिद् अतिरेकिय इति अन्यथा हि यथा तथेत्येव न स्यात् भूयस्तु सारूप्यं गवा गवयस्य इत्येवं प्रतिपद्यते तस्मान्नोपमानं प्रत्यक्षागमाभ्यां भिद्यत इति । गवा गवयसादृश्यं प्रतिपद्यते गवयसत्तां वेति । अहो प्रमाणाभिद्यता भदन्तस्य गवा गवयसारूप्यप्रतिपत्तेस्तु संज्ञा-संज्ञि-सम्बन्धं प्रतिपद्यते इति सूत्रार्थः । तस्मादपरिज्ञाय सूत्रार्थं यत्किञ्चिदुच्यते । (न्यायवार्तिक १-१-६, पृ: ६०-६१) ।

तदीदृशमुपमानपत्रम् अविद्वान् सादृश्यज्ञानं सादृश्यविशिष्टज्ञानं

mony)¹ as separate forms of evidence, but included the former in perception and the latter in perception and inference. Dignāga criticised Vātsyāyana's inclusion of *manas* (mind)² among the sense-organs, while his own theory of *sāntaratva* (interstice or interval)³ was criticised by Udyotakara and Vācaspati.

Dignāga is said to have cited an instance of inference contrary to perception, and his view was criticised by Kumārila Bhaṭṭa, as we learn from Pārthasārathi Miśra's gloss. on 59-60, Anumāna-pariccheda of Kumārila's vārtika on the 5th sūtra of Jaimini. Udyotakara and Vācaspati Miśra too⁴ criticise the same view of Dignāga.

वो[नो]पमानफलमिति भ्रान्तो भदन्तो दिङ्नाग आक्षिपति । ...
भदन्तभ्रान्तिमुद्धाटयति ।

(न्यायवार्त्तिक तात्पर्य टीका, १-१-६, पृ: ११५) ।

¹ आप्तोपदेश इति किमाप्तानाम् अविस्वादितां वा प्रतिपद्यते आहोस्विदर्थस्य तथाभाव इति । यदि आप्तानाम् अविस्वादितां प्रतिपद्यते तदनुमानात् । अथ अर्थस्य तथाभावः सोऽपि प्रत्यक्षेण । यथा क्षयमर्थं प्रत्यक्षोपलभते तदा तथाभावमर्थस्य प्रतिपद्यत इति । तन्न । सूत्रार्थापरिज्ञानात् । नायं सूत्रार्थः । आप्तोपदेशः शब्द इति । अपि तु इन्द्रियसम्बन्धासम्बन्धेषु अर्थेषु वा शब्दोक्तेस्त्रेण प्रतिपत्तिः सागमार्थः । तस्मादसम्बद्धोऽयं विकल्पः ।

(न्यायवार्त्तिक १-१-७, पृ: ६६)

अत्र शब्दं प्रमायान्तरमसहमानो दिङ्नागस्तस्त्वक्षयं विकल्प्य आक्षिपति । (न्यायवार्त्तिकतात्पर्यटीका १-१-७, पृ: ११८) ।

² तदनेन मनसश्चेत्यादि भाष्यं व्याख्यातं । तद्घृषितं दिङ्नागेन—
अभिधेधादुपात्तं चेदन्येन्द्रियवत् तथा ।

(न्यायवार्त्तिकतात्पर्यटीका १-१-७, पृ: ६७-६८) ।

³ यथोक्तं दिङ्नागेन । सान्तरग्रहणं न स्यात् प्राप्तौ ज्ञानेऽधिक्यस्य च ।

(न्यायवार्त्तिकतात्पर्यटीका १-१-७, पृ: ७६-७७) ।

⁴ यद् पुन दिङ्नागेन प्रत्यक्षविरुद्धमनुमानमुदाहृतं तदुपन्यस्यति । अपरे पुनरिति । अन्नावयः शब्दः कृतकत्वाद् घटादिवदिति ब्रूवायः शब्दस्वरूपमेवापकपति ।

(न्यायवार्त्तिकतात्पर्यटीका १-१-१, पृ: ३१) ।

1300). One of Jina's works was also translated about the same time and by the same translator (Nanjio's Catalogue i. 10). We have already seen that Jina was identical with Dignāga. These lead us to conclude that Dignāga flourished before 557 A.D.

From Tibetan sources we have further found that Dignāga was a disciple of Vasubandhu. Now Vasubandhu¹ was contemporary of Lha-tho-ri, King of Tibet who lived up to 371 A.D.² There seems to have existed a Sanskrit work³ on the life of Vasubandhu which was translated into Chinese by Kumārajīva A.D. 401-409. These facts go to show that Vasubandhu lived in the middle of the 4th century A.D. and Dignāga about 400 A.D.⁴

¹ *Vide* Pag-sam-jon-zang.

² Csoma De Koros's Tibetan Grammar, p. 182.

³ Nanjio's Catalogue, Appendix i. 6.

⁴ Mr. Takakusu in a very learned article on Vasubandhu, published in the Journal of the London Royal Asiatic Society, January 1905, fixes the date of Vasubandhu at about A.D. 520-500. According to this theory Dignāga must have flourished about 500 A.D. Takakusu's chief argument is that Saṃghabhadra was a contemporary of Vasubandhu (*vide* Hwen thsang, I-tsing, Paramārtha's Life of Vasubandhu, etc.), and was the translator of the Samantapāsādikā of Buddhaghosa into Chinese in 488 A.D.

29. *Vidyāpati Thākur.*—By G. A. GRIERSON, C.I.E., PH.D.,
D. LITT., *Honorary Member of the Asiatic Society of Bengal.*

I have read with great interest the account of the collection of Vidyāpati's poems, which is given by Bābū Nagendra Nāth Gupta on pp. 20 and ff. of the Extra No of Vol. LXXIII, Part I, of the Journal of the Asiatic Society of Bengal. He has been kind enough to refer to the small collection of songs published by me about twenty-three years ago. In order to facilitate his labours, may I state at once that I have learnt a good deal since then, and that I by no means maintain all that I wrote about Vidyāpati in 1882.

Bābū Nagendra Nāth Gupta refers to the deed of gift of the village of Bisphī as if he considered it to be a genuine document. I am afraid that this contention can hardly be sustained. The plate contains a date in the Fasli San, and that date was long before the Fasli era had been invented. He will find a facsimile of the grant in the Proceedings of the Society for August, 1895. My reasons for considering it to be spurious are given in full on page 96 of Vol. LXVIII (1899), Part I, of the Journal. See also Dr. Eggeling's Catalogue of Sanskrit MSS. in the India Office Library, Part IV, No. 2864.

The following list of articles on Vidyāpati may be useful:—

J. Beames. *The Early Vaishnava Poets of Bengal.* Indian Antiquary, II, 1873, p. 37.

J. Beames. *On the Age and Country of Vidyāpati.* Ibid. IV, 1875, p. 299.

Article in the *Baṅga-darśan*, Vol. IV, 1282 B.S. (Jyaiṣṭha), p. 75.

Sāradā-carāṇ Maitra. *Introduction to Vidyāpatir Padāvalī.* Second edition, Calcutta, 1285, B.S.

G. A. Grierson. *Vidyāpati and His Contemporaries.* Indian Antiquary, Vol. XIV, 1885, p. 182.

G. A. Grierson. *On some Mediæval Kings of Mithilā.* Ibid. Vol. XXVIII, 1899, p. 57.

Paṇḍit Chandā Jhā, referred to by Bābū Nagendra Nāth Gupta, has published a useful edition of the Sanskrit text of the *Purusaparīkṣā*, together with a translation into Maithili. It was printed at the Rāj Press, Darbhāṅgā, in 1296 F.S. He has added a valuable Appendix dealing with historical questions, and containing frequent quotations from the *Kīrtti-lata*, a work of Vidyāpati partly written in the Maithili of his time. If these quotations are correct, they show that the vernacular of the poet's time differed widely from modern Maithili, and was rather a form of Prakrit.

I believe that Mahāmahōpādhyāya Paṇḍit Hara Prasād Sāstri discovered a very old collection of Vidyāpati's poems in Nēpāl in the year 1899. He was kind enough to send me a copy of one of them, which showed much the same Prakritic appearance. I had published a current version of the same song in my



edition of 1882, and the points of difference showed that there had been extensive modernization in the language of my copy. The same is no doubt also true with regard to all the genuine songs in my collection.

I am very glad to learn that an attempt is going to be made to publish a correct text of the dainty sonnets of the old Master-Singer, and I look forward to its appearance with pleasant anticipations.



30. *Some remarks on the Geology of the Gangetic Plain.*—By
E. MOLONY. [With one plate.]

It requires no argument to prove that the present gangetic plain is the alluvial deposit of the river Ganges, and that the whole of the area of the gangetic plain south of the Himalayas must at one time have consisted of a network of morasses and river-channels very similar to the Sunderbans at the present time. It is also evident that, over the whole area of the United Provinces of Agra and Oudh, so far from the Ganges being at present engaged in raising its flood plain, it has become an agent of denudation, and has, long since, entered on the work of denuding the whole of its plain which lies above flood-level.

It may be taken as proved that this great change has been occasioned by the submergence of the area at the mouth of the river.

The period at which this important movement took place must have been very remote.

The river has eroded a bed in the old alluvium which is in many places several miles in width.

Within the limits of the former bed there is a considerable amount of later alluvium, but it varies very much from the older alluvium in its characteristics, and, in most places, there is a very well-marked line of demarcation between them.

Most of the recent alluvium is liable to be flooded during high floods of the Ganges, though there is some which has never been flooded during the memory of man. This is probably due to deposit of sand and light soil by the action of the wind during the hot weather.

In the recent alluvium the substratum is nearly always pure river sand, the finer soils being deposited in shallow water where the current is usually less.

Another difference is that the recent alluvium never contains nodular limestone (*kunkar*), which occurs in most places in the old alluvial deposits.

I have perhaps made this assertion more positive than the text-books would appear to warrant, but I have never come across an instance in which *kunkar* was found in soil that clearly belonged to the recent alluvium, though I have occasionally found it in a locality near the boundary of the new and old alluvium.

The soil also differs, the recent alluvium being generally much more fertile, at any rate in the eastern portion of the United Provinces, where the recent alluvium contains a percentage of the black cotton soil brought down by the Jumna and its tributaries from Central India.

The area that lies between the extreme limits up to which the Ganges has excavated its bed in the old alluvium may be styled the "Khādir."

Having had good opportunities for observation in the Ghazipur

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District, I have marked in on a map of the district the limits of the "Khādir."

I may say that in some places the limit of the "Khādir" is exceedingly plain, whereas in other places it is not at all so plain to the eye.

However, by tracing the line from one curve which is well defined and following slight indications, it is almost always possible to follow the line till it reaches another point where the indications are again quite unmistakable.

In the Ghazipur district the only part where, in my opinion, the line is really doubtful, is the western edge of the island of old alluvium opposite the confluence of the Ganges and Kārmnāsa. Both the northern and the southern edges of that island are extremely well defined as far west as a line drawn north and south just west of Birpur; but the western edge is very ill-defined.

In my opinion, two causes have united to create this difficulty. The first is the proximity of the deep stream of the Ganges within comparatively recent years, which has led to a great accumulation of water-borne material; and the second is the proximity to the west of the boundary of a large sandy tract whence a considerable amount of material has probably been blown by the strong west winds which prevail during the early part of the hot weather.

It is clear that at any particular time each bank of the river must have concave bends alternating with convex bends. Centrifugal force throws the current against the concave bends and away from the convex bends. Erosion, therefore, only takes place at the concave bends, and this is the reason why the edge of the "Khādir," as delineated on the map, does not contain any convex bends.

The fact that these concave bends, which form the limits of the "Khādir," are not connected by convex bends, but cut each other at various angles, proves that no two adjacent bends could have been made at the same time.

The width and shape of the "Khādir" opposite the town of Ghazipur show that there must have been many complete alterations in the course of the river.

Between each of the alterations in the course of the river, indicated by the indentations in the edge of the "Khādir," a very long period must have elapsed.

Although the vagaries of the Ganges are proverbial, it must be borne in mind that, whenever the river impinges on the old alluvium, the process of denudation is very slow.

In the new alluvium the river often cuts away three or four hundred feet in a year, but in the old alluvium, whenever the river impinges on reefs of *kunkar*, there is practically no denudation.

Even where the river impinges directly on the stiffish clay (without any *kunkar* reefs to protect it), which is the prevailing soil in the Ghazipur district, the denudation, as will be shown later, does not exceed ten feet in the year.

It will be noticed that all sharp bends of the river are in the old alluvium, and that the main direction of the river's course is determined by the bends in the old alluvium. Although, in the new alluvium, the river does, at times, rapidly make considerable changes in its course, yet its general direction remains constant for long periods of time, owing to the fact that it is determined by the bends in the old alluvium, which alter very slowly.

There is no historical record of the river ever having been at any distance from either Zamania, Ghazipur or Chausa, although the configuration of the "Khādir" shows that, at some past period, it must have been several miles distant from each of these places.

The same probably holds true of both Benares and Chunar. At the time of the battle of Chausa, where Humayun was defeated in 1539 A.D., the point of confluence of the Ganges and Kārpnāsa must have been at the same place as at present, though it is clear, from the island of the old alluvium just opposite, that, at one time, the Ganges must have been flowing a considerable distance to the north, and the confluence of the Ganges and Kārpnāsa must have been east of Buxar. There is, therefore, unmistakable historical evidence that there has been no radical alteration in the course of the Ganges in the Ghazipur District for close on four hundred years.

At Chochakpur there has been very little alteration in the course of the river. The configuration of the "Khādir" in the reach between Chochakpur and Zamania can be accounted for by supposing that between Chochakpur and Karanda the river originally flowed nearly east to west, and that the great bend at Zamania has been the result of gradual and continuous erosion by the river.

The distance between Karanda and the point of the bend at Zamania is 72 miles or 39,000 feet.

Allowing 4,600 feet as the original width of the river, this would give a distance of 35,000 feet which has been eroded by the river.

The first survey was made of the district in 1840. From that time to 1872 Mr. Oldham records in his *Memoirs of the Ghazipur District* that the annual rate of erosion was 12 feet (*vide* p. 3 of Oldham's *Memoirs of the Ghazipur District*). Since the last survey, made in 1882, the annual rate of erosion has been 9 feet. This gives an average of close on 11 feet a year for the last 64 years.

At this rate the erosion of the Zamania bend would require about 3,200 years. At the Zamania bend the soil is the ordinary stiff clay found in the district without any *kunkar* reefs. There is, however, a *kunkar* reef at Zamania town, and very solid *kunkar* reefs at Ghazipur.

Another noteworthy feature shown by the map is the island of old alluvium opposite Chausa surrounded on all sides by the "Khādir."

It is stated in Mr. Oldham's *Memoirs* that a similar island

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exists in the Benares District opposite Saidpur. I have not had an opportunity of verifying the statement, and have not therefore shown it on the map.

Mr. Oldham's is the only possible explanation, *viz.*, that the river Ganges has gradually eroded the land at some bend in its course till it has cut into the course of the affluent at a point above the former confluence.

When once a channel had been made into the course of the affluent, centrifugal force would drive the water of the Ganges through the breach so made, and the new channel would rapidly be widened out till it became the main course of the Ganges.

The island opposite Chausa must have been caused by the Ganges usurping the course of the Kärmnāsa, and that opposite Saidpur by the usurpation of the course of the Gumti.

Similarly, tradition, which Mr. Oldham considered trustworthy, says that, at one time, the water of the Gogra passed down the present river Sarju, or Tons as it is sometimes styled, which separates the Chazipur and Ballia Districts. This would indicate that the Ballia District consists of a similar island caused by the river Gogra (or Sarju as it is called in some parts) usurping the course of some smaller river that used to flow down the present bed of the Gogra.

Any such usurpation of another river's course would probably completely alter the set of the current at the old confluence, and release the river from the bends in the old alluvium which had formerly given the river its general direction.

At the commencement of the paper it was taken as already proved that the area at the mouth of the Ganges was an area of subsidence.

There are, however, indications that within the area of the United Provinces of Agra and Oudh the southern portion of the Gangetic plain has sunk relatively to the northern portion.

The first piece of evidence is that supplied by the artesian well sunk at Lucknow. (*vide* Oldham's *Geology of India*, p. 434.)

At a depth of 158 feet the water stood at 61 feet below the top of the borehole. At a depth of 975 feet the water had risen to 2 feet. At 990 feet it stood at a depth of 5 feet below the top of the borehole, and at 1,189 feet the water rose over the top of the casing, itself 24 feet above the surface of the ground.

This shows that the lower strata must be inclined, though it does not indicate the direction of the dip.

As the Himalayas are known to have risen and the Gangetic plain to have sunk, the probability is that the dip of the strata is from north to south.

A river flowing over a flat alluvial plain would naturally find its way directly down the slope, and there is no reason why the watershed should not be equidistant from either bank.

If, however, after the river had excavated a channel for itself with the watershed equidistant from either bank, the whole alluvial plain through which it flowed was slightly tilted at right angles to the river's course, the result would be that the slope into

the river from one bank would be increased, while the slope to the other bank would be decreased. Consequently, denudation on one side of the river would be greater than on the other. The same thing would happen to all the rivers flowing on parallel courses. Thus, in the area between two rivers which run on nearly parallel courses, the denudation into one river would be greater than into the other. Each river would, in time, force the water-shed on one bank back towards the next river, but, in exchange, would lose on the other bank an equivalent in its catchment area.

The result would be that each river would have a larger catchment area on one bank than on the other. This appears to be the case in several districts of the United Provinces with which I was acquainted.

Canals are generally aligned to run along the water-sheds, and in the following cases the canals are aligned very near the rivers running parallel to them on the north side :—

- (a) The main upper Ganges canal in the Aligarh District is very much nearer the Kali Naddi on its north than the Jumna on the south.
- (b) The Anupshahr branch of the Ganges canal in the Aligarh District is very much nearer the Ganges on its north than the Kali Naddi on its south.
- (c) The projected Sarda canal in the Lucknow District was aligned very much nearer the Gumti on its north than the Sai on its south.

The fact that, at Lucknow, water from a great depth rose to above the surface, shows not only that the strata at great depths are inclined, but that they are continuous over very considerable distances.

This is a very interesting fact, because it has been conclusively shown that the surface strata are not continuous.

For certain reasons too technical to be given here a good irrigation well can only be made where the masonry cylinder can be taken down to a firm clay stratum underlaid by waterbearing sand.

A good deal of attention has therefore been paid to the strata near the surface, by which I mean down to a depth of say 125 feet.

Colonel Clibborn was deputed in the seventies to make an examination into the subject of wells, and, in his report published by the Board of Revenue of the North-West Provinces and Oudh, in a collection of papers relating to the construction of wells, it is clearly demonstrated that the clay strata so essential to the success of wells are not continuous.

I might add that anyone practically acquainted with the construction of irrigation wells knows that Colonel Clibborn's conclusions are correct.

A very difficult problem is here presented to us ; how can we account for the fact that the surface strata are clearly not continuous, while those at great depths appear to be continuous ? Two possible explanations suggest themselves ; the first is that at great

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depths, the pressure of the superincumbent earth renders impervious to water everything but the coarser and cleaner kinds of sand.

Extensive and continuous deposits of such sand would only be found along the beds of the larger rivers which may be presumed to have existed though they have been long since deeply buried by alluvial deposits.

If a deep borehole struck such an old river-bed, it is conceivable that the necessary head to bring the water to the surface might be supplied through a deposit of sand in the former river-bed continuous up to a point in its upper course where it attained the necessary elevation.

The observed facts at Lucknow do not, however, support this explanation, as there were several rises in the level of the water in the borehole, and it seems unlikely that one borehole should have struck the beds of several such former rivers one above the other.

The second possible explanation is that the surface deposits were laid down in running water and the deeper deposits in still water. Anyone acquainted with the country can see in the crescent-shaped swamps and the alternations of clay, light soil and sand on the surface of the country, the result of the same agency that is reproducing similar features in the alluvium of the great rivers, namely deposition by running water; and the inference is inevitable, that the surface of the country was formed by the deposit of the material derived from the mountains in a labyrinth of vast morasses and deltaic rivers.

This agency, however, would not explain the enormous area of clay and sand revealed to us by the Lucknow borehole; and it seems necessary to assume the existence of an enormous sheet of water with currents sufficient to transport sand great distances to account for the phenomena.

In Oldham's *Geology of India*, p. 144, the occurrence of a species of fresh-water porpoise, common only to the Ganges and Indus and their tributaries, is cited as showing that the Ganges and Indus flowed at one time into the sea through a common delta.

The sea is shown to have extended up the Indus valley within a geologically recent period; and it seems possible that it may have extended east much further into the gangetic plain than is usually supposed.

The absence of any indications of marine origin in the upper strata might well be due to their having been deposited in fresh water after the communication with the sea by the Indus valley had been cut off.

At any rate, whether the water was fresh or salt, the continuity of the deeper strata over great distances seems to strengthen the theory that the lower strata were deposited in a great sheet of still water.

Such a great sheet of water, originally salt but gradually becoming fresh as the communication with the sea became gradually more and more obstructed, would satisfactorily account for the change of the salt-water porpoise into an animal inhabiting fresh water.

31. *The Nafā'isu-l-Maāṣir*—By H. BEVERIDGE, I.C.S. (retired).

Among the Elliot manuscripts in the British Museum there is a volume which contains, among other things, about a hundred pages of an extract from the *Nafā'isu-l-Maāṣir*. It is numbered Or. 1761 and is described at p. 1022*a* of vol. III of Rieu's Persian Catalogue. The title *Nafā'isu-l-Maāṣir* may be rendered "Choice Deeds," and is a chronogram implying that the book was begun in 973 (1565-66). It is stated by Dr. Sprenger that a postscript gives 979 as the date of the completion of the work, but that much later dates are mentioned in it. The work was a biographical dictionary of Persian poets and was written by Mirzā 'Alāu-d-daulah Qazvinī, the younger brother of Mir 'Abdu-l-laṭif, who was for a time Akbar's preceptor. 'Alāu-d-daulah was himself a poet, and wrote under the name of Kāmi. He is described by Badayūni at pp. 97 and 316 of the third volume of his history. A copy of the original work was seen by Dr. Sprenger in the Moti Mahall Library in Lucknow, and he has described its contents at pp. 46-55 of his Catalogue; but apparently the manuscript was lost in the Mutiny, and there does not seem to be any copy in our public libraries. It is to be hoped that a copy will turn up in India some day for the work was a valuable one and was the basis of Badayūni's third volume. Sprenger states that the book contained notices of about 350 poets, most of whom flourished in the time of Akbar. He also gives the index of the names. Fortunately the Elliot MS. contains the historical introduction which gives an account of the reigns of Bābar, Humāyūn and Akbar. The account of Akbar is the fullest of the three, but only goes down to 982 or 1575, *i.e.*, to the twentieth year of the reign. Though the historical introduction is only a sketch, it gives here and there useful bits of information, and it is valuable as being, apparently, the earliest written of all the lives of Akbar. Like his father Mir Yahyā, the author of the *Labb-u-tawāriḫ*, 'Alāu-d-daulah is very fond of chronograms, and gives many of them in his introduction. Among others he gives the well-known one about Bābar's birth, and adds that it was composed by Maulānā Jām. This cannot have been the great Jāmī. On p. 26*b* he speaks of Bābar's religious poem, and corroborates Sprenger's statement that it was entitled "Dar Fiqh." He adds that it was sent to Ḥaḡrat Imām A'zam, who is probably the same person as the Maqdūm A'zam of Transoxiana whose name is mentioned in Ney Elias's history of the Khojas. That is, he is probably one of several Maqdūm A'zams, for the name was borne by more than one saint. At p. 33*b* we have the statement that Humāyūn conversed in Herat with the writer's father, here called Amir Nāṣiru-d-din Yahyā. At p. 37*b* mention is made of a Khwājah Qāzi who was Humayun's prime minister and who, unless he be the same as Khwājah Ghāzi, does not seem to be named by other authorities. It is added that he belonged to the family of the famous enthusiast Shams-i-Tabrizī. The account of Humāyūn's death gives one or two new details. In the first place it says that

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the accident of the fall from the roof occurred on Friday the 16th Rabi-al-awwal, and not on the 11th, and that he died on the following Sunday the 18th. Then it adds, p. 37b, that Humāyūn was wrapped in a blanket, or dressing-gown (*galimwār*) at the time, and was leaning on his staff when the latter slipped on the stones. When he came to his senses, he repeated the *Kalima*. Then follow several chronograms. *Khizr Khwājah Khān*, the husband of Gulbadan Begam, is mentioned as one of those who concealed the fact of the death for some days.

In the account of Akbar's conquest of Hājipūr we are told that Rajah Gajpati (of the Dumraon family) assisted with 2,000 Cherus, and in mentioning Dā'ūd's escape by boat from Patna on the night of Sunday 21 Rabi-aḡ-ṣāni the new circumstance is given that he fled to Tānda. When the bridge over the Pūn Pūn was broken down by the flying Afghans, some 2,000 of them were killed.

The Elliot MS. gives, besides the introduction, a few extracts from the notices of poets in the body of the work. Among them is the interesting account of Wafāi, *i.e.*, Zainu-d-din *Kh*wāfi, who was Bābar's Ṣadr, or ecclesiastical judge, and who translated, or paraphrased Bābar's Memoirs. It is this account which has been borrowed by Badayūni (see Dr. Ranking's translation, p. 609).

I hope that this notice may lead to the discovery of the original work, and if not, that someone will publish the extracts in the Elliot Manuscript.

24th July, 1905.

32. *Notes on the Species, External Characters and Habits of the Dugong.*—By N. ANNANDALE, D.Sc., Deputy Superintendent of the Indian Museum. [With three plates.]

The present communication is largely of the nature of a preliminary notice. Later I hope to offer to the Society a memoir on the anatomy of certain organs and structures in the Dugong, which will be based partly on the specimen whose measurements are given below, and partly on the fine collection of Indian and Australian skulls and other bones already in the Indian Museum. At present I feel confident in stating (with four fully adult Indian, two fully adult Australian, and parts of three immature Indian skulls before me) that the individual variations among Indian specimens are at least as great as those which were believed by Owen to constitute a specific difference between Indian and Australian species. Skeletons of the Dugong exhibit very great differences (not solely connected with sex and age) *inter se*, and these cannot be specific, as they are not constant even in a series from the same seas. Owen's *Halicore australis*, therefore, must be relegated, as most recent mammalogists have thought probable, to the synonymy of *H. dugong*.¹

In the summer of 1905, I was deputed by the authorities of the Indian Museum to visit the northern part of the Gulf of Manaar, in order to obtain a complete skeleton and skin of an Indian specimen of the Dugong, the only skins hitherto in the collection, and the most nearly perfect skeleton, having been obtained from Queensland in exchange with the Brisbane Museum. Thanks largely to the kind offices of the Rev. A. D. Limbrick, of Rámanád, I was so fortunate as to obtain a fine male, the external characters of which are described below:—

Dimensions—

1	Length to tip of tail	...	9 ft., 6 in.
2	Length to extremity of fluke	...	9 " 11 "
3	From posterior border of anus to tip of tail	...	3 " 4 "
4	From anterior border of anus to genital opening	...	1 " 5 "
5	Length of flipper	...	1 " 8 "
6	Width of flipper	...	10 "
7	Breadth of fluke (injured at one extremity)	...	2 " 10 "
8	Height of facial disk	...	8 "
9	Breadth of facial disk	...	11 "
10	Length of upper lip (upper jaw pad)	...	6½ "

¹ Strictly speaking, the specific name should be *dugong*, in accordance with the Malay; but the incorrect form is so well known that it seems better not to change it.

In this table and throughout the paper the "tip of tail" means the extremity of the actual tail. The length between this point and the extremity of the snout was measured by means of sticks stuck into the sand. The "length to extremity of fluke" was obtained by drawing a straight line immediately in front of the snout and another parallel to it immediately behind the uninjured extremity of what may be called, on the analogy of the Cetacea, the fluke. The posterior margin of this organ being concave, the latter measurement is considerably the greater. The third measurement given practically represents the length of the tail, which is a little less than half that of the head and body. This observation is perhaps of some importance, as the pads of stout connective tissue intervening between the dorsal vertebræ are of considerable thickness, although there are no bony epiphyses. Consequently, skeletons, as set up in museums, very often do not represent anything approaching the true length of the animal. By the "facial disk" I mean the flattened area, which does not include the nostrils, above the tusks. It will be described in detail later. What I have called the "upper lip" is plainly the homologue of what Murie and others have called the "upper jaw pad" in the Manatees; but it is better developed in the Dugong and probably plays a more important part in the assimilation of food.

Colour—

The dorsal surface, shortly after death, was a dull brownish grey, which faded gradually, though pure grey on the sides, to dirty flesh-colour on the belly. The face, flippers and fluke were dull grey; but the skin round the base of the tusks and the upper lip was mottled with dirty flesh-colour, which was also the tint of the lower jaw. Judging from the different descriptions given by different observers, the coloration of the animal is as variable as I find its skeleton to be.

Integument—

The skin of the specimen had not the corrugated and wrinkled surface of that of the Manatees; but, on the other hand, it had not quite the smooth and oily appearance of that of many of the Cetacea. It was smooth, as it were, but not polished. Undoubtedly the hair, especially on the back, contributed to this effect, giving the animal quite a prickly appearance in certain lights. I shall here state merely that three distinct kinds of hair existed on the external surface, two on the facial disk and lower jaw, and a third over the whole of the trunk, limbs and fluke, the kind last mentioned having two distinct phases of growth. The hairs are apparently devoid of pigment. The general character of the integument, apart from the hairs, resembled that of tropical Cetacea, the "blubber" being less thick than that of northern Porpoises. No oil was set free by cutting through it. Beneath it, however, there was a layer of opaque white fat very like that of a pig in appearance.

General Characters of the Trunk and Limbs—

The general form differed very considerably from that of all Cetacea, resembling that of some of the larger Eared Seals in several points. The appearance of the animal was clumsy, and evidently not adapted for rapid motion of any kind, the back and sides being rounded and the belly flat. There was no apparent neck, but the head was massive and terminated bluntly in front. The tail was distinct from the trunk, having a more compact and a less amorphous character. The vertebral column extended to the tip, which projected slightly below the edge of the fluke. The latter organ was deficient as regards one extremity, which had been removed, probably by the bite of a shark. The wound had healed completely. Running from near the tip of the tail to a point near its commencement was a conspicuous ridge formed chiefly by a thickening of the epidermis. This was about two inches high near the centre. It is well shown in the photograph reproduced on plate 7. The fore-limbs were regular in outline, flattened, with a distinct posterior fringe, but with no trace of separation of the digits externally. Only the fore-arm projected externally, the humerus being buried in the body as far as the articulation of the radius and ulna. There was a conspicuous fold of skin immediately above the limb. The mammae, which were large considering the sex of the individual, were situated immediately behind the limb, almost on a level with its posterior edge; they were long in comparison with their diameter. Judging from a female, otherwise correctly mounted, in the Colombo Museum, this elongated character of the mammae is characteristic of both sexes. The lateral position is apparently characteristic of all living Sirenia. Native fishermen tell me that in the lactating female the milk squirts out with great violence to a considerable distance if the mamma is pressed. The copulatory organ, of which Dr. Francis H. A. Marshall, of the University of Edinburgh, has kindly promised to furnish a description later, was entirely withdrawn into the body.

Head—

The head of the Dugong is perhaps its most characteristic feature, but all the figures of the animal, including some very recent ones, that I have been able to discover, are incorrect as regards this part, at any rate if they are intended to represent adult males. The only mounted specimens I have seen which are at all correct are those in the Colombo Museum; but these are a female, a half-grown male and a newly (probably prematurely) born young one. Except as regards the tusks, they agree very fairly well with my notes and photographs.

The mouth of the specimen was very small. It was tightly closed by the upper lip ("upper jaw pad") which projected over the lower jaw, the lower lip being represented merely by a thin fold of skin. The upper lip was stout in shape, flabby in structure, in the newly-killed specimen; tongue-shaped, smooth and hairless on the surface. The tusks, one of which was broken, projected through the skin above it, not from the mouth, as has

been stated. The curious projection of the anterior part of the lower jaw was only covered by a thin layer of skin and connective tissue; it is the rounded structure which looks like a heavy lower lip in fig. 1, plate 8. Above the tusks the integument expanded into a large flattened disk, which was divided into two halves by a vertical cleft. This cleft also extended along the base of the upper lip between the tusks. The lower part of the disk bore two broadly raised transverse ridges, which were divided from one another by the cleft and covered with bristles comparable to, but shorter and blunter than, the spines of a Porcupine. These ridges are evidently the homologues of the two lobes of the "upper lip," by means of which the Manatees crop the plants on which they feed. They do not appear to be either so mobile or so widely separable, however, in the Dugong. Above them the disk was covered with longer and finer bristles, evidently of a sensory nature. The upper edge of the disk was turned backwards and upwards, and there was a more or less inturned flap on either side. The nostrils were entirely outside the disk, on the top of the head: they were crescentic in shape and could evidently be closed during life. The tissues surrounding the eye were somewhat prominent; but the eye itself was small, black, beady and deeply sunk. It was not surrounded by radiating wrinkles as in the Manatees. The presence of large glands in connection with it afforded some justification for the Malays' belief¹ that the Dugong weeps when captured. The external ear was extremely minute, being a circular aperture less than 10 mm. in diameter.

Habits—

It seems probable that the habits² of the Dugong have changed considerably within the last half century, together with the diminution in its numbers noted by Blanford and others. Only having seen a freshly-killed specimen, I am not in a position to say anything on this point from actual observation, but from what I was told by the native fishermen, who possess special nets for the capture of the Dugong, it is rare nowadays for more than one specimen to be taken at a time, whereas formerly, in the Gulf of Manaar, flocks of many hundreds were said to occur. Further, the animal appears to have ceased to frequent shallow water, for, according to the fishermen, the only specimens they

¹ They regard the tears of the *ikan duyong* ("Dugong fish") as a powerful love-charm. Muhammadan fishermen on the Gulf of Manaar appeared to be ignorant of this usage, but told me that a "doctor" once went out with them to collect the tears of a Dugong, should they capture one. Though they do not call the animal a fish, they are less particular about eating its flesh than are the Patani Malays and the Trang Samsams, who will not do so unless the "fish's" throat has been cut in the manner orthodox for warm-blooded animals. The common Tamil name for the Dugong is *kāḍḍalpūdrū* ("sea-pig"); but the fishermen at Kilakarai (Lubbais) call it *āṟḷḷiah*.

² These remarks refer only to the Gulf of Manaar. Major A. B. Anderson informs me that in the Andamans, Dugongs still enter Port Blair harbour occasionally in parties of two or three. Dec. 15th, 1905.

see near the shore are those which have been wounded or are sick. I was unable to discover the depth at which those taken for the market are usually captured; but a gentleman who has visited the Dugong "fisheries" off the northern coast of Queensland, tells me that in Australian waters the usual depth is from the ten to twelve fathoms. In the Gulf of Manasar stout nets, very deep, with a large mesh and heavily weighted, are sunk in the neighbourhood of the animal's known feeding-places, and individuals of both sexes, but apparently more especially young ones, become entangled in them and are thus taken. Occasionally specimens are even captured in the ordinary drift nets used in catching fish. I was told that as many as sixty were sometimes brought into Kilakarai, a large native port near the northern corner of the Gulf on the Indian shore, in a year; but this number is probably exaggerated. The Muhammadans of the district are so fond of the flesh¹ that they give large prices for it, and probably the fishermen who possess the right kind of nets go in pursuit of the Dugong as often as they have nothing else to do; for the search is precarious, but the profits considerable should it be successful.

As regards the food of the Dugong, it has often been stated, but not by Blanford, that it feeds exclusively on a marine phanerogamous plant. This is evidently not the case, as the stomach of my specimen was full of pieces of a green alga, all of which belonged to one species. Two things struck me about the contents of the stomach and the upper part of the intestines: (1) their freedom from all adventitious growths, either animal or vegetable, and (2) their perfect and unbruised condition. They consisted of clean pieces of seaweed about $2\frac{1}{4}$ inches long, plucked off and evidently not masticated. Even the little bladders which the seaweed bore had not burst. As regards the method of feeding, I do not think that it can be the same as that of the Manatees, which pluck the plants which they eat by means of the two lobes above the "upper jaw pad," and push their food towards the mouth with their flippers. Similar lobes certainly exist in the case of the Dugong, but they did not appear in the fresh specimen to be capable of any great degree of separation or movement, while the flippers are hardly long enough to give any great assistance in feeding. As the "upper jaw pad" (upper lip) itself, on the other hand, was evidently freely moveable and possibly to some extent extensible, it seems possible that it is used in plucking seaweed, which certainly could be grasped between it and the lower jaw. This would necessitate the food being passed under the horny pad, with its bundles of more or less consolidated hairs, on the anterior part of the palate. Possibly these hairs may have the function, as they

¹ The meat is excellent; roasted, I could not have distinguished it from good, but rather tough beefsteak. It had none of the peculiar flavour of whale-meat. Moreover, it has the same quality as that assigned, both by the old voyagers and by modern observers, to the flesh of the American Manatees—it keeps good for a considerable time, for at least three days in hot weather, during which mutton goes bad in twenty-four hours. The blubber is not made into oil at Kilakarai.

certainly have the appearance, of the bristles of a scrubbing brush. I have already noted the small size of the mouth, and I believe, judging from the small area of the articular surface of the lower jaw, as well as from observations on the fresh specimen, that the jaw has very little, if any, lateral movement. For all these reasons I doubt whether the persistent teeth have any function beyond crushing the calcareous or other growths brushed off the seaweed by the hair-papillæ of the anterior palate.

The fishermen told me that they took females with young ones accompanying them at all times of year, but never more than one young one with each female. They had never seen the female raise the upper part of her body vertically from the water, clasping the young one in her flippers, which seem hardly suitable for the purpose. Judging from the scars on the specimen examined, I believe that the males fight with their tusks at the breeding season.

32. *Hedyotis sisaparensis*, a hitherto undescribed Indian species.—By
CAPTAIN A. T. GAGE. I.M.S.

The writer when re-arranging the earlier genera of Rubiaceae in the Calcutta Herbarium in 1902, came across what appeared to be an undescribed species of *Hedyotis*. The writer's opinion was confirmed by Sir George King, who kindly compared the species at Kew. The description written in 1902 is now offered for publication.

Hedyotis sisaparensis.—Undershrub with branches about as thick as a crowquill, glabrous, pale grey almost white, four angled; internodes much shortened in the region of the inflorescence and hidden by the stipules. Stipules about 9 mm. long, pectinate, scurfily tomentose, and showing a few raphides. Leaves shortly-petioled, lanceolate acute, base narrow cuneate tapering into the glabrous petiole; lamina glabrous on both surfaces, upper surface bright green, lower grey, with abundance of raphides; midrib on lower surface of lamina flattened out, white; lateral nerves 4-6, rather faint, running forward at an acute angle with the midrib; length of lamina 5.8-8 cm., breadth 1.25-2.5 cm., length of petiole 6.5 mm.-1.25 cm. Flowers in axillary bracteate cymes of about 4.5 cm. in length; main peduncle 1.8 cm. long; bracts about 5 mm. long, flowers pseudo-pedicellate in groups of three on the secondary peduncles. Calyx including lobes 8 mm. long, lobes 4, subulate, equalling the length of the calyx-tube, but exceeding the capsule. Corolla, unopened, exceeding the calyx tube, lobes 4. Stamens 4. Ripe capsule 3 mm. in diameter, glabrous, dehiscing septicidally. Seeds not seen.

Wynaad, *Beddome*. Above Sisapara, Nilgiri district, 7,000 feet alt. *Gamble*, No. 13381.

The affinity of this species is with *H. mollis*, *Wall.*, from which it is easily enough distinguished by its inflorescence.

34. *An Examination of the Nyāya-Sūtras.*—By HARAPRASĀD ŚĀSTRĪ.

Anyone who carefully reads the Nyāya Sūtras will perceive that they are not the work of one man, of one age, of the professors of one science, or even of the professors of one system of religion. It would seem apparent that at different ages philosophers, logicians and divines have interpolated various sections into an already-existing work on what we may, for the want of a better term, call Logic.

It is evident that such a book would be full of contradictions, inconsistencies and irreconcilable passages. So the Nyāya Sūtras are. The Hindu Commentators from Vātsāyana, in the third century A.D. to Rādhāmohan Gosvāmi in the nineteenth, have attempted to evolve a harmonious system of Logic and Philosophy from the Sūtras. The task is an impossible one, and so every one of them has failed, and that miserably. They have imported later and more modern ideas into the commentaries, but without success. The acute logicians of Bengal thought it was a difficult work; and they had recourse to various shifts to explain the Bhāṣya and other commentaries. They have changed some passages and imported extraordinary meanings into others.

But unfortunately the idea of studying the Sūtras by themselves did not occur to any one of them. Ninety-nine per cent. of the manuscripts of this work are accompanied with some commentary or other. Manuscripts giving the Sūtras only are extremely rare. I got one from Midnapore, and gave a copy of it to my friend Dr. Venis, and it was published at Benares. It is known as the Nyāyasūtroddhāra. My friend Paṇḍit Vindhyaesvariprasāda Duve got one at Benares, and he published it in the Bibliotheca Indica as an appendix to his edition of the Nyāyavārtika. This is known as Nyāyasūcinibandha. But from what I know of the habits of paṇḍits, I am sure nobody has studied the Sūtras by themselves. They have been used only as works of reference.

I took up the Nyāyasūcinibandha for independent study. On comparing the Sūtras as given there with Sūtras in editions accompanied by commentaries, and also with the Nyāyasūtroddhāra, I was struck with the variety of readings which the Nyāya Sūtras presented. A number of Sūtras are regarded as spurious. The readings of a large number of Sūtras are irreconcilably different in different editions. This is not the case with the Vedānta Sūtras, and with the Mīmāṃsā Sūtras, in which various readings are extremely rare, almost non-existent, and interpolated Sūtras there are none. I am not speaking of the Sāṃkhya and Yoga Sūtras, which are comparatively modern. The difficulty which I feel in regard to the Nyāya Sūtras was also felt about a thousand years ago, when Vācaspatimīśra, who flourished about the end of the tenth century, twice attempted to fix the number of Sūtras and their readings, namely, in Nyāyasūtroddhāra, and in Nyāyasūcinibandha, both of which go by his name. If both are the works of one man, as they profess to be, it is apparent that the author did not feel sure of his ground.

For convenience sake, I took up the *Nyāyasūcinibandha* dated 898 Saka, i.e., 976 A.D., and that for three reasons, —(1) because it counts the number of Sūtras, number of words, and even the number of letters in the *Nyāya Sūtras*; (2) because it divides the Sūtras into sections, each dealing with a single topic; (3) and because it is dated, and there are internal evidences to show that it was written by the great *Vācaspati*, the commentator on the six systems. I have made an English translation of the Sūtras with as little help from the commentaries as possible.

The study of the Sūtras makes it apparent that works of two different sciences have been mixed up. One is a work on Logic, or rather the science of Reasoning, or, as *Sadajiro Sugiura* terms it, “science of discriminating true knowledge from the false”; and the other is a work on some system of philosophy. The work on Logic is confined almost exclusively to the first and the fifth chapters. I say almost, because some sections of the second chapter also may belong to the Logic part. The rest of the work with about eight Sūtras in the first chapter belong to the philosophical part.

Let us analyse the Logic section. This section seems to contain three separate treatises. The first chapter, with the exception of the Sūtras mentioned above, constitutes the first and the most important treatise. It is complete in itself. The first Sūtra enumerates the sixteen topics essential in Debate, and all the sixteen topics are fully treated of in the first chapter. It is fully self-contained, and nothing farther is needed to complete it. The first Sūtra gives, so to say, the objects and reasons for the science. It says that anyone who has a complete knowledge of the sixteen topics attains the highest proficiency in every walk of life, and the first chapter deals with the complete knowledge of all the sixteen topics.

I may remark in passing that the science embodied in the first chapter of these Sūtras is not Logic, in the present signification of the term, but Logic in its primitive and rudimentary stage. It may better be called the Science of Debate. And all the requisites of a well-regulated Debate are included in the sixteen topics. They are not always the requisites of the science of Logic, as known at present. The second treatise on Logic, embodied in the Sūtras, is the first “daily lecture” of the fifth chapter. The last Sūtra of the first chapter simply says that *Jātis* and *Points of Defeat* are many, thus leaving no room for any elaborate subdivision of these two topics. But the first lecture of the fifth chapter not only enumerates twenty-four subdivisions of the *Jātis*, but gives careful definitions of every one of them. The author who wrote the first chapter is not the author of the first Lecture of the fifth chapter. The last section of the first lecture of the fifth chapter, which has nothing to do with definitions of the subdivisions of *Jātis*, but which limits the extent of a fruitless Debate, is no part of the second treatise, and seems to be an addition. The third treatise consists of the second “daily lecture”

of chapter fifth. It enumerates the various Points of Defeat and defines them.

One of the most cogent reasons for considering these treatises as separate, and also for considering them to be composed by different authors, is the fact that the same technical terms have been used and defined in all the three, but in very different senses. The Definition of Jāti, as given in the first, does not cover all the subdivisions enumerated in the second. The terms *prakaraṇasama* and *sādhyaśama* are defined among the "Semblances of Reason" in the first treatise, but these two have been differently defined as subdivisions of Jātis. The term *matīnyūñā* has been defined one way in the second and another way in the third. If all the three had been written by one and the same person, the same technical terms would not receive at his hands two such wide definitions.

It is difficult to say whether the composition of the second and third treatises preceded or followed that of the first treatise, which is a comprehensive work on the Science of Debate. Many scholars hold that such comprehensive treatises generally follow separate and partial treatises on parts, just as the *uṇādi-sūtras* and the *gaṇa-sūtras* preceded Paṇini, and that these separate treatises after the composition of the comprehensive treatise, formed its appendices.

One would be tempted to believe that all the sections of the first lecture of chapter second, with the exception of the last, and the first and last sections of the second Daily Lecture of that chapter, may be included in the Logical part, because they have a direct bearing on *pramāṇa* or the instruments of true knowledge, which forms the first essential topic in the Science of Debate.

The commentators and modern paṇḍits, in order to make this incoherent collection of Sūtras a harmonious whole, are obliged to say that the Nyāyasūtras consist of the enumeration, the definition and the examination of the sixteen topics. The enumeration is complete in the first Sūtra, the definition in the first chapter, and the examination in the other chapters. There would have been no cause of complaint if all this were a fact. The examination is, however not complete. It does not comprehend all the sixteen topics. The topics examined in fact are the 1st, 2nd, 3rd, 15th, and 16th. The examination of others have been altogether omitted. If there is any, it is of a very nebulous character. So a complete examination of the sixteen topics is not to be found in the Sūtras, and this is exceedingly suspicious. The examinations are, as a rule, examinations of the definitions given in Chapter I., at least so the commentators say. If so, the examination of Jāti and of the Points of Defeat are not really the examination intended by the commentators. On the other hand, in the case of Jāti, we find that the definition as given in Chapter I., depending simply upon homogeneity and heterogeneity, does not apply to a number of the subdivisions of Jātis as given in Chapter V. The examination of other three topics, too, contains so much of heterogeneous matter, besides an examination of the

definition, that one is tempted to say that the whole of the examination affair, *i.e.*, all the chapters II. to IV. are an addition. So far about the Logic portion.

The Philosophy portion has its beginning in the second Sūtra of the first chapter. The first Sūtra of Chapter I., as has been already said, gives the objects and reasons of the work. And these objects and reasons seem to be all secular. There was no need for a second enunciation of the objects and reasons. But the second Sūtra again enunciates them. And in this case, they are philosophical and spiritual. Vācaspatimīśra puts the two together in one section, and calls the section "objects and reasons." The commentators have tried to reconcile this double enunciation of objects and reasons, but without success. The only reasonable explanation of this double enunciation seems to be that some later writer has interpolated the second Sūtra with a view to add philosophical sections to the work. The second Sūtra contains topics which are not enumerated in the first, and the thoughtful reader is struck with the introduction of new matter so early as in the second Sūtra. These topics are misery, birth, activity and fault together with "apavarga." The introduction of these new topics is defended by saying that they fall under the subdivisions of the second topic, in the first Sūtra, namely, "objects of true knowledge." "The object of true knowledge" is a topic which is so vast that all the topics of the world may come under its subdivisions. And, as a result of this, the interpolator has tampered with the definition of prameya (Sūtra I. 1'9) which is virtually an enumeration of its subdivisions, and put in five new topics into it. That the prameyasūtra at one time was different from what it is now, is apparent from the statement of Haribhadrasūri, a Jain writer, who in his *ṣaḍdarsana samuccaya* describes the prameyasūtra in the following terms:—

प्रनेयं ज्ञानदेवार्थं बुद्धीन्द्रियवृत्तानि च, (Bibliotheca Indica edition), or, as in the Benares edition, प्रनेयं ज्ञानदेवार्थं बुद्धीन्द्रियवृत्तानि च. The order of words is different; sukha or happiness seems to have been included in the old prameyasūtra. Sukha finds no place in that Sūtra now and in Chapter IV., *Āhnika I.*, the Section 13 on the examination of dukkha, reduces sukha into dukkha, and is not prepared to admit sukha as a separate subdivision of prameya. But from Haribhadra's statement we find that sukha was there at some early time. Now the question is, who changed the Sūtras and why? The answer is not far to seek. In a work on Logic prameya, as a topic, must come in. But Logic does not require a long enumeration of prameyas and an elaborate examination of their details, which are essential in philosophy. So the author who wanted to convert a logical treatise into a system of philosophy, and who is responsible for the interpolation of the second Sūtra is also responsible for this alteration in the prameyasūtra. The logical treatise was an ancient Hindu treatise, and Hindus never took an ultra-pessimistic view of the world. Sukha is the ultimate goal of the Mīmāṃsakas, of the

Vedāntins, the two really orthodox systems of Hindu philosophy. Why should Nyāya be so pessimistic? There is no reason for it, and it has been shown that the word *sukha* did at one time occur in the *prameyasūtra*. The Buddhists are downright pessimists. To them everything is *duḥkha*, and it is they who believed that *sukha* was, if properly analysed, *duḥkha*. It seems that the Hindu logical treatise underwent the first stage of its philosophical transformation in the hands of some Buddhist philosopher, and became a gloomy and pessimistic science. The second Sūtra of the first chapter, destroying so many things successively and reaching to *apavarga*, has the appearance of Buddhist teaching. They enumerate a long series of effects from false knowledge, and teach us that as we destroy effects, we perceive the causes, that these causes are also effects; we destroy them and gradually we come to the original cause of all these, namely, false knowledge; when that is destroyed we come to *nirvāṇa*. This is precisely the teaching of the second Sūtra, though the enumeration is not so long. The Buddhist tradition, as we know it from China and Japan, distinctly says that the Logic of *Akṣapāda* was their handbook in logic, and that they added to and subtracted from it. The tradition is positive that *Mirok* mixed up Nyāya and Yoga, and we find in the present Nyāyasūtra a long section on Yoga in IV. 2, and one is puzzled to know why it has been introduced. The grounds advanced by Hindu commentators for its introduction are of the flimsiest kind. But the fact comes from China that *Mirok* mixed the two up. So some other Buddhist philosophers might have introduced the second Sūtra and changed the *prameyasūtra* so as to suit his purpose.

That the science of *Akṣapāda* was, for a long time, in the hands of the Buddhists, and, therefore, not in great favour with the Brāhmanist, will appear from the following considerations. The *Rāmāyaṇa*, the *Mahābhārata*, the *Purāṇas*, and even the *Dharmaśāstras* dislike those who studied the *Tarkasāstra*. The *Vedantasūtras* distinctly say that this science was not accepted by the orthodox. They are known as little removed from the Buddhists—the Buddhists are nihilists, they are half nihilists (*ardhavaināsika*). That there was an unholy alliance between the Nyāya and the Buddhists in the early centuries of Buddhism, is not open to grave doubts. The introduction of the second Sūtra, the alterations in the *prameyasūtra*, and the definitions of misery, birth or rebirth, activity, faults, and emancipation in the first chapter appear to be the work of Buddhists. The examination of these definitions occupy the whole of the first Lecture of the fourth chapter.

The work underwent another transformation in the hands of a later Hindu sect who vigorously assailed some of the prominent Buddhist doctrines, both *Mahāyānist* and *Hinayānist*. These assailed *Sarvadvāyātāvāda* on the one hand, and *Sarvāstvāda* on the other. To know who they were not, one has simply to cast his eyes on the various theories that have been assailed in connexion with the examination of rebirth. These are

शुद्धनोपादान, ईश्वरोपादान, वाक्यिकतम, सर्वात्मिकतम, सर्वैकिकतम, सर्वेश्वरकर्म, सर्वशुद्धता, संश्लेषकवाद । But this gives us no clue to the identification of the sect, save and except that they were non-Buddhists. Haribhadra, however, tells us that these were Śaivas and Haribhadra belongs to the fifth century of the Christian era.

Haribhadra's statement is borne out by two facts. Sūtra 8, Chapter I., seems to be out of place. The pramāṇas are defined in the four previous Sūtras, and, all of a sudden, comes a Sūtra subdividing śabda; subdivisions of śabda are unknown in other systems of philosophy. It is generally translated by the word, "dogma." The distinctions between the Revealed Word and the Ordinary Word is peculiar to the Nyāyasūtras. It is not Buddhistic, because they did not know of this subdivision. And in the fifth century, they discarded dogma altogether. Moreover, the introduction of this Sūtra explains the introduction of the section, on the authority of the Vedas, and along with it, of a quarrel with the Mīmāṃsakas on the eternity of sound.

All this seems to be the work of a Hindu sect which we take to be the Śaivas at the instance of Haribhadra. These are a compromise between the Hindus and the Buddhists.

So the present Nyāyasūtras consist of three treatises on Logic. And the bit of Hindu systems of philosophy that it contained has been mixed up with two other systems of philosophy, which have been laterly interpolated into the book.

Even after a careful examination, I do not find the Nine Reasons and Fourteen Fallacies attributed to Akṣapāda by the Chinese authorities. There are chapters on fallacies and 'homogeneity, and heterogeneity' play an important part in the Nyāyasūtras. But yet no "Nine Reasons" and "Fourteen Fallacies." Perhaps the primitive work of Akṣapāda was systematised in very early times by another person named Gotama. But this is diving too deep into the antiquity of Hindu thought, and our appliances are not sufficient for the purpose.

35. *Optimism in Ancient Nyāya.*—By VANAMĀLI VEDĀNTATĪRTHA.

In the interesting paper "A study of the Nyāya-Sūtras," which Mahāmahopādhyāya Haraprasāda Śāstri read in the Asiatic Society's Meeting in November 1905, I was delighted to find him advocating, with very cogent arguments, that *the original Nyāya-Sūtras were not pessimistic*. Nowadays Nyāya Philosophy means Nyāyavaiśeṣika, and the philosophic productions of the modern Naiyāyikas are really Vaiśeṣika Philosophy in a Naiyāyika garb. The terminology and the method are Naiyāyika, but the philosophy is, nevertheless, Vaiśeṣika. Thus the pessimism of the modern Naiyāyika is due not to his Nyāya, but to his Vaiśeṣika, from which he does not know how to distinguish his Nyāya. The well-known couplet

वरं हृन्दावने रम्ये ऋगाजलत्वं व्रजाभ्यङ्गम् ।

न तु वैशेषिकीं मुक्तिं प्रार्थयामि कदाचन ॥

makes the Vaiśeṣika salvation consist in an unconscious, pleasureless, painless existence. This is as it should be. But when Śrihaṣa makes Gotama (otherwise called Akṣapāda) responsible for a pessimistic doctrine of salvation, he seems to have uncritically stated the common opinion of his time. Says he—

मुक्तये यः शिलात्वाय शास्त्रमूचे सचेतसाम् ।

गोतमं तमवेक्ष्यै (त्वा) व यथा वित्य तथैव सः ॥

(Naiṣadha XVII., 75.)

The following extracts from the Saṃkṣepa-Śāṅkarajaya of Mādhavācārya will substantiate the Śāstri's view. It shows that even the comparatively recent Mādhava was not unacquainted with the fact that the Naiyāyika salvation was really optimistic and included an element of pleasure, though it was vulgarly identified with the Vaiśeṣika salvation. Whether the author was or was not the celebrated Mādhavācārya, the minister of the Bukka family of Vijaynagar, is immaterial to the argument. For what is contended here is that even in such a late production as the Saṃkṣepa Śāṅkarajaya, which professedly is an abstract of a larger life of Śāṅkara, the Naiyāyikas are credited with an optimistic view of salvation.

तत्रापि नैयायिक आत्तगर्वः कथादपक्षाचरणात्तपक्षे ।

मुक्तिर्विशेषं वद सर्वविद्येन् गोचेत् प्रतिज्ञां त्यज सर्ववित्त्वे ॥

एत्यन्तगामे गुणसङ्गतेर्या स्थितिर्नभोवत्कथमत्तपक्षे ।

मुक्तिस्त्वदीये चरणात्तपक्षे सागन्दसंवित्त्वहिता विमुक्तिः ॥

(Saṃkṣepa Śāṅkarajaya XVI., 68-69).

Says the Naiyāyika vauntingly (to Śāṅkara) : " If you are omniscient, state the difference between the theories of salvation as held by Kaṇāda and by Akṣapāda. Otherwise give up your pretensions to omniscience." (Replies Śāṅkara) " According to Kaṇāda, salvation is existence, where all connexion with attributes has been absolutely destroyed, and the soul remains like the sky. According to your Akṣapāda that salvation includes a consciousness of pleasure."

Śāṅkara, the great Advaita commentator on the Brahma-sūtras, went to Śāradā-pīṭha in Kāśmīra, and before he could enter into the shrine, he was questioned by different philosophers on nice points of Indian Philosophy. Permission to enter was conditional upon answering these questions rightly. The two couplets quoted above occur just after Śāṅkara had successfully answered the atomic philosopher (Kaṇāda).

From what has been said, it will be evident that though *sukha* or pleasure is not enumerated as a separate prameya in Nyāyasūtra (I. 1. 9), as known at present, and though section 13 of the first āhnikā of the fourth chapter reduces it to mere pain, yet it (pleasure) had a place in the old Nyāya Śāstra, and that *the true tradition* was not lost in such out-of-the-way places as the āradā pīṭha in Kāśmīra, and that only such great masters as Śāṅkara were expected to know it, the tradition having been lost in the mainland of India much earlier.

36. *Some Notes on the Dates of Subandhu and Diṅ-nāga.*—By

HARAPRASĀD ŚĀSTRĪ.

Since the publication of an edition of the *Vāsavadattā* by Edward Hall, in the *Bibliotheca Indica*, in 1859, the date of its author is taken to be either the end of the sixth century or the beginning of the seventh. The reason assigned by Hall for arriving at this conclusion is the fact that *Bāṇa* in the beginning of the seventh century mentions *Subandhu* as one of his predecessors.

However unsatisfactory the reason might be, the Orientalists have accepted the above date for *Subandhu*. The question, however, is still an open one; and here are facts which may be taken for what they are worth.

In discoursing on the excellencies of style, *Vāmana*, who belongs to the ninth century A.D., in his *Kāvya-lāukāra Sūtra Vṛtti*, quotes a verse as an example of the excellency named *Significance (sābhiprāyatva)*.

The verse or rather hemistich runs thus:—

“सोऽयं सम्प्रति चन्द्रगुप्ततमयः चन्द्रप्रकाशो युवा ।
जातो भूपतिराश्रयः कृतधियां दिष्ट्या कृतार्थश्चमः ।”

“The celebrated son of *Candragupta*, the young *rājā Candraprakāsa*, has become the refuge of learned men, and fortunately his labours are successful.”

Commenting on this the author says, that the words, “the refuge of learned men,” are significant, because they bring to mind the fact that *Subandhu* was one of his ministers.

Now, there were two *Candraguptas* in the *Gupta* line; both were called *Vikramāditya*. The first was the founder of the empire and the second his grandson. The second *Candragupta* was a patron of learned men. Is it not likely that *Subandhu* served under one of his sons, *Candraprakāsa*?

It is an old custom among Indian sovereigns to appoint their adult sons to rule extensive territories, and these Princes used to hold courts on the model of their imperial fathers. This *Candraprakāsa* seems to have done with *Subandhu* as one of his ministers.

As *Candragupta's* inscriptions range from 400 to 414 A.D., *Subandhu* must have flourished about that time, *i.e.*, in the beginning of the fifth century.

There may be an objection to this, that in some MSS. the word is not *Subandhu* but *Vastubandhu*. But there is no such name as *Vastubandhu* in the history of *Sanskrit* literature, so far as it is known. *Vastubandhu* may be a corruption of *Vasubandhu* who flourished about this time; but he was a *Buddhist* monk who would not accept office and would not be spoken of with favour by a *Hindu* writer. *Vastubandhu* is only, I believe, a scribe's mistake for *Subandhu*.

There is a passage in Subandhu's own work *Vāsavadattā* which seems to confirm my conclusion. In the preface to his *Vāsavadattā*, he regrets that on the death of Vikramāditya, new people came to the front, the old taste for poetry was gone, and everyone's hand was at his neighbour's throat. It seems that on the death of Candragupta there was a civil war, and Subandhu came to grief, by supporting a losing cause. The successor of Candragupta Vikramāditya was Kumāragupta and not Candra-prakāsa.

Kern in his "Indian Buddhism" puts down Diñnāga between 520 and 600 A.D. The Chinese think that he flourished in the tenth century of the Buddhist era, *i.e.*, between 420 and 520 A.D. Tākākusu, in his paper on the date of Vasubandhu, has shown from the dotted Buddhist records left by Indian paṇḍits in Chinese monasteries, that the date of Buddha's death is very nearly the same as has been arrived at by the Orientalists of Europe, *viz.*, 480. B.C.

I have got a quotation from Diñnāga's work in Haribhadra's famous work entitled "*Śaddarśana Samuccaya*." He says that the definition of Pratyakṣa or perception is कल्पनापोद्गमवान्न—and he also says that the Buddhists believe only in two sources of right knowledge. It is well known that Diñnāga discarded Śabda, or dogma, from the sources of right knowledge, and fixed the number of these sources at two; and Diñnāga's definition of Pratyakṣa is known to be कल्पनापोद्गमवान्न. So the quotation is from Diñnāga.

Haribhadra was one of the great Jaina writers whose date of death is fixed by the universal tradition amongst the Jainas, at 535 Vikrama samvat, *i.e.*, 479 A.D. The dates are given in two Prākṛta gāthās, in pp. 372 and 378, vol. iv. Peterson's Reports.

A study of Haribhadra's work confirms the idea that he belonged to about the fifth century A.D. He does not know Vedānta as a system of Philosophy. He enumerates the following as the six systems:—

Bauddha, Naiyāyika, Sāmkhya, Jaina, Vaiśeṣika and Mimāṃsaka. But, says he, if one considers Naiyāyika and Vaiśeṣika to be one and the same system, to him the sixth would be the Cārvāka. All these stamp him as flourishing before the rise of Vedānta and Yoga. His Mimāṃsā does not show any sign that he knew Kumāri.

If Haribhadra, before 479 A.D., quotes from Diñnāga and adopts his view as universally accepted by Buddhists, Diñnāga must have flourished some time before him.

Sadajira Sugiura, who writes a monograph on Hindu Logic as preserved in China and Japan, says that the name of Diñnāga's teacher is not known. But Kern says he was a pupil either of Aśaṅga or of Vasubandhu—two brothers who distinguished themselves as Mahāyānist writers. Tākākusu places Vasubandhu in the reign of Skandagupta, and his son Bālāditya in the seventies

and eighties of the fifth century A.D. This, I think, is untenable. Tākākusū makes two initial mistakes: (1) Skandagupta is not Vikramāditya but Kramāditya; and (2) he was not succeeded by Bālāditya but by Pura Gupta.

If we take the Vikramāditya mentioned by Tākākusū to be Candragupta, who is really called Vikramāditya in his coins, and Bālāditya for his heir-apparent Kumaragupta, then the account by Tākākusū and that by Haribhadra can be reconciled. Bālāditya is not a proper name: it simply means "the young Sun," the heir-apparent. If this view of the thing is accepted, Diṅnāga, the pupil either of Vasubandhu or of Asaṅga, would write his books in the first quarter of the fifth century; and by the time Haribhadra wrote, they would be well-known works.

Candragupta Vikramāditya seems to have had two sons—Candraprakāśa and Bālāditya; of these Bālāditya favoured the Buddhists and succeeded to the throne, while Candraprakāśa was worsted in civil war and his minister Subandhu complained that "new men" came to the front, the old taste for poetry was gone, and everyone's hand was at his neighbour's throat.

37. *Formation of New Castes.*—By R. BURN, I.C.S.

An interesting example of the constant movement going on among Hindu castes has recently been brought to my notice. Among the numerous endogamous groups included in the term *Vaiśya* or *Baniā* are two known as *Bārahseṇī* and *Chauseni*, the members of which are chiefly found in the Central Doāb. The former claim descent from the Chandravāṇī King Braṣṇī, while one account of the latter traces their origin to Chānūr, a wrestler attached to the Court of Rājā Kans who was slain by Kriṣṇa. There seems little doubt that neither group is in reality of any considerable antiquity. While the *Bārahseṇīs* are shopkeepers and frequently confectioners, they were, till recently, only allowed to sell articles made up of milk and curds, such as *peṛa*, *barfi*, etc., and not sweetmeats containing flour or grain such as *puri* and *halwā*. The *Chausenis* are usually regarded as a class composed of illegitimate children of *Bārahseṇīs* or outcastes from that group.

Two events have, however, recently happened which show that the *Chausenis* are rising in importance and now object to receive recruits in the usual manner. The Hindu *Bārahseṇīs* have already reached the stage at which widow remarriage is no longer recognized. Some members have, however, joined the *Āryā Samāj*, and a marriage was lately celebrated between a *Bārahseṇī* man and a widow of the same group. When the project was announced, the orthodox Hindus held a meeting and endeavoured to stop further proceedings, but without success. Two days after the marriage another meeting was held, and the married couple and those who aided them were solemnly excommunicated. A printed notice has been widely circulated directing all *Bārahseṇīs* to avoid dining, marrying, drinking or holding any communication with those outcasted. A large feast was subsequently held, at which about 4,000 orthodox *Bārahseṇīs* were present, but to which none of the guilty members were invited. The feeling has gone so far that some men whose sons had previously married into families now outcasted have recalled their daughters-in-law, and refuse to let them visit their parents. Others have turned their own daughters out of their houses as they are married to outcastes.

The other case differs in nature. A *Bārahseṇī*, *A*, has a daughter who was married to *B*. *B* abandoned his wife and kept a Musalmān woman by whom he had several children, and it was thought that he had become a Musulmān. He recently came to *A* and claimed his wife, and was entertained by his father-in-law. *A* has, therefore, been outcasted, and was not invited to the caste feast which celebrated the expulsion of those concerned with the remarriage of a widow.

The question now arises, what is to become of the persons outcasted? Up to a recent date they would have been received by the *Chausenis*. This group, however, refuses to admit them, as an important section of it has refused to recognize widow marriage, and even the rest of the group look on the practice

[N.S.]

with growing disfavour. The outcastes in the first case themselves refuse to be considered as Chausenis on the ground that the widow remarriage took place between persons of the same caste, while degradation is only effected where a connection takes place between members of different castes. The Chausenis refuse to accept *A* and *B*, because they hold that the contact with Musalmāns has rendered them unfit for any relations. So far, no final decision has been arrived at, and the result is that the excommunicated persons are regarded as having no caste at all. It is not improbable that the persons turned out for their connection with the widow remarriage will form a separate group.

38. *Ascaris halicoris* BAIRD.—By DR. V. LINSTOW. *Communicated by N. ANNANDALE.*¹ (With 1 plate).

Aus der Pars pylorica des Magens von *Halicore dugong* Quoy & Gaim. Golf von Manaar.

Owen, *Catalogue of the Physiological Series of Comparative Anatomy*, London, 1833.

Owen, *Proc. Zool. Soc.*, London, VI., 1838, p. 30.

Baird, *Proc. Zool. Soc.*, London, XXVII., 1859, pp. 148–149, tab. lvi, figs. 2–2c.

Parona, *Annal. Mus. Oivic. Genova*, 2 ser., VII., Genova, 1889, pp. 751–761, fig. 1–3, tab. xiii, figs. 1–16.

Stiles u. Hassall, *Intern. Paras. of the Fur Seal*, Washington, 1899, pp. 147–151, figs. 70–75.

Aus dem Magen von *Halicore dugong*; Penang, Rothes Meer, Assab.

Die Art hiess früher *Ascaris halicoris* Owen, aber OWEN'S Bezeichnung vom Jahre 1833 ist ein blosser Catalog-Name ohne jede Beschreibung; auch im Jahre 1838 sagt er nur: "*in each case the gland (des Magens von Halicore dugong) was infested by Ascarides, hereafter to be described*"; er hat aber eine solche Beschreibung nicht gegeben.

Die erste Beschreibung, auch unter dem Namen *Ascaris halicoris*, stammt von BAIRD, der die Länge des Männchens auf 63·5 mm, die des Weibchens auf 82·5 mm. angiebt, und die Vulva des Weibchens in $\frac{2}{3}$ der Körperlänge vom Kopfende findet.

Eine eingehendere Beschreibung lieferte erst PARONA; er giebt an, dass das Männchen 85–115 mm. lang ist, am Schwanzende stehen jederseits 4 prae- und 1 post-anales Papille und die Spicula sind kurz; das Weibchen hat eine Länge von 85–144 mm. und eine Breite von 3·5 mm; die Vulva liegt an der Grenze vom 1. und 2 Drittel des Körpers; die Vagina ist 6·5 mm., die Uteri sind 29 mm. lang; eine blinddarmartige Verlängerung des Darms verläuft nach vorn neben dem Ösophagus und hat $\frac{1}{2}$ der Länge desselben; PARONA giebt Durchschnitte der Körperwandung mit der Muskulatur, dem Dorsalfeld und dem Lateralfeld, letzteres mit dem in ihm verlaufenden Excretionsgefäss, Durchschnitte der 3 Lippen, des Ösophagus, des Darms, des Blinddarms, des Ovarium, des Uterus und des Hodens.

STILES und HASSALL haben die Art nicht untersucht; sie referiren über die Beschreibungen BAIRD'S und PARONA'S, und reproduciren einen Theil der Abbildungen derselben.

PARONA'S Schilderung kann ich mehrfach ergänzen und die Exemplare, welche meinen Untersuchungen zu Grunde lagen

[¹ Dr. von Linstow has been kind enough to send me the accompanying note on the Round Worm of the Dugong. It appears that no communication has previously been published in German by the Asiatic Society of Bengal; but it has been felt that the work of so distinguished an authority should be issued exactly as it was received. No student of the Nematodes can be ignorant of the contents of Dr. von Linstow's numerous and invaluable contributions to the literature of the group.—N. A.]

[N.S.]

verdanke ich der Güte des Dr. N. ANNANDALE, Deputy Superintendent of the Indian Museum in Calcutta.

Die Farbe der Nematoden soll im Leben eine grünliche sein. Beide Körperenden sind verdünnt, und Kopf und Schwanzende sind abgerundet.

Die Cuticula ist in Abständen von 0·016 mm. regelmässig querverringelt; eine gröbere, tiefere Querringelung findet sich in Entfernungen von 0·28–0·35 mm., und in den beiden Seitenlinien stehen in Intervallen von 0·79 mm. vertiefte schwarz-pigmentirte Querfurchen.

Die Leitenfelder haben eine Breite von $\frac{1}{3}$ – $\frac{1}{4}$ des Durchmessers und schimmern als weisse Stränge durch die Cuticula hindurch.

Die drei Lippen sind ohne Zwischenlippen, Zahnleisten und Löffelbildung; die Dorsallippe ist 0·45 mm. lang und 0·48 mm. breit; die grösste Breite liegt etwas vor der Mitte; die Form ist gleichmässig abgerundet, die Pulpa bildet 2 rundliche Vorsprünge nach vorn, die jeder einen kleinen fingerförmigen Ausläufer nach innen, nicht weit vom Vorderrande, haben; die Papillen stehen im vorderen Drittel und sind weit nach aussen gerückt.

Der Ösophagus nimmt $\frac{1}{4}$ – $\frac{1}{3}$ der Gesamtlänge ein und ist 0·59 mm. breit; der 0·51 mm. breite Darm sendet eine blinddarmartige Verlängerung nach vorn, die an der Dorsalseite des Ösophagus verläuft und länger als die Hälfte des letzteren ist.

Das Männchen erreicht eine Länge von 115 mm., und eine Breite von 3·16 mm.; das Schwanzende, welches $\frac{1}{10}$ der Gesamtlänge einnimmt, ist ventral eingebuchtet; an demselben stehen jederseits in grossen Abständen 4 prae- und 3 post- anale Papillen; die vordeste der prae-analen steht 4·9 mm. vom Schwanzende entfernt; das 0·19 mm. breite Vas deferens schwillt 4·7 mm. vor der Cloakenöffnung zu einer spindelförmigen 0·62 mm. breiten Samenblase an; die beiden Sirren sind fast gerade, an der Wurzel knopfförmig verdickt und 1·58 mm. lang bei einer Breite von 0·079 mm. Sie verlaufen in einem Musculus protrusor, der sie mit einer Scheide rings umgiebt, und können von einem Musculus retractor zurückgezogen werden. Das dickwandige Vas deferens ist aussen gebildet von einer Ringmuskellage, an der innen ein sehr breites gekerntes Epithel steht; auch der Ductus ejaculatorius hat im Innern hohe gekernte Epithelzellen.

Das Weibchen wird 140 mm. lang und 3·95 mm. breit; das Schwanzende nimmt $\frac{1}{10}$ der ganze Thierlänge ein; die Vulva theilt die Länge von vorn nach hinten im Verhältniss von 14:29. liegt also an der Grenze von 1. und 2. Drittel. Die Vagina ist 4·75 mm. lang und 0·39 mm. breit; sie ist sehr dickwandig und lässt unter der Hüllmembran eine breite gekernte Ringmuskelschicht erkennen; dann folgt eine homogene Lage und nach innen von dieser eine breite Auskleidungsmembran mit Längsleisten. Die Vagina theilt sich in 2 Uteri, die 1·07 mm. breit sind; unter der dicken Hüllmembran liegt eine gekernte Ringmuskelschicht, innen von dieser eine granulirte Lage mit kleinen Kernen und nach innen von der letztern eine Schicht sehr kleiner hyaliner kugelförmiger gekernter Körperchen. Die Uteri verschmälern

sich am Ende auf 0·24 mm. und gehen in ein gestreckt eiförmiges Receptaculum seminis von 1·78 mm. Länge und 0·59 mm. Breite über, das an seiner Innenwand rundliche gekernte Epithelzellen trägt; dann folgt eine 4·3 mm. lange und 0·24 mm. breite Tuba, welche ausser der Hüllmembran nur aus einer sehr mächtigen gekernten Ringmuskulatur besteht, und auf die Tuba folgt das 0·39 mm. breite, sehr lange, vielfach gewundene Ovarium.

Die Eier sind kugelrund und 0·13 mm. gross; die Schale ist dick und aussen dicht mit unregelmässigen Eindrücken bedeckt, die bald rundlich, bald viereckig, bald dreieckig und bald linienförmig sind.

Erklärung der Abbildungen.

- Fig. 1. Dorsallippe.
- Fig. 2. Männliches Schwanzende von der linken Seite.
- Fig. 3. Querschnitt durch das Vas deferens.
- Fig. 4. Querschnitt durch die Vagina.
- Fig. 5. u Uterus-Ende; r Receptaculum seminis; t Tuba;
o Theil des Ovarium.
- Fig. 6. Querschnitt des Uterus.
- Fig. 7. Theil eines Uterus-Querschnitts (stärker vergrössert).
- Fig. 8. Querschnitt der Tuba.
- Fig. 9. Theil eines Querschnitts des Receptaculum seminis.
- Fig. 10. Vagina mit dem Beginn der beiden Uteri.

39. NUMISMATIC SUPPLEMENT VI.

N.B.—*The enumeration of these articles is continued from page 135 of the Journal for 1905.*

II.—MEDIEVAL INDIA.

42. A HOARD OF RAJPUT COINS FOUND IN THE GARHWAL DISTRICT.

The following analysis of a hoard of Rajput coins found at Lansdowne, in the Garhwāl District of the United Provinces, is of some interest, both on account of the contents of the hoard and on account of the place of its discovery.

The circumstances of the find cannot be better described than in the words of the owner, Major M. B. Roberts, 1/39 Garhwāl Rifles. In a letter to the British Museum, dated 29th May, 1905, he says:—

“The following is the history of the finding of these coins: My Regiment is permanently stationed at Lansdowne (a cantonment which came into existence on 4th November, 1887) in the Garhwāl District of the United Provinces of Agra and Oudh (late North-Western Provinces). The station is situated on the outer range of the Himalayas between 5,000 or 6,000 feet above sea level, and lies just about half-way between Naini Tāl and Mussorie. The district is populated for the most part by Rājputs, who were supposed to have immigrated there from Rājputāna at various periods up to about 1,000 years ago, I believe. On the 22nd October last, whilst having a building site for my house excavated on the top of the ridge, a number of these coins, all exactly alike, were discovered buried in a small earthenware pot about two feet below the surface. Unfortunately the earthenware pot was broken into minute fragments by the pickaxe.”

The coins were 157 in number; they were of copper, often showing traces of silverplating, and they were all of the well-known Rājput types “the bull and horseman.” They are distributed as follows:—

<i>Tomāra Dynasty of Dehli and Qanauj.</i>				No.
Sallakṣaṇa-Pāla Deva, A.D. 978-1003. ¹				
(v. Cunningham, <i>Coins of Medieval India</i> , page 88,				
Pl. IX. 1)	...	...	...	5
Anaṅga-Pāla Deva, A.D. 1049-1079.				
(<i>ibid.</i> page 85, Pl. IX. 4 and 5)	...	...	...	6
 <i>Rāhtor Dynasty of Qanauj.</i> 				
Madana-Pāla Deva, A.D. 1080-1115.				
(<i>ibid.</i> page 85, Pl. IX. 15)	...	...	...	39

¹ The dates given are those of Cunningham.

Chauhān Dynasty of Ajmir and Dehli.

Someśvara Deva, A.D. 1162-1166. (<i>ibid.</i> page 86, Pl. IX. 9)	21
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Rājput̄s of Narwar.

Chāhāḍa Deva, A.D. 1234-1255. (Thomas, <i>Pathāns</i> , page 70, referred to but not illustrated in Cunningham, <i>op. cit.</i> page 92)			72
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<i>Coins not completely identified.</i> (cf. Cunningham, <i>op. cit.</i> page 88)	14
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TOTAL	157
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It will be seen that the coins, which are at the same time both the most numerous and the latest in date, are those of Chāhāḍa Deva; and it is, therefore, not unreasonable to suggest that the hoard was most probably concealed during his reign.

An excellent summary of the chief events of the reign of Chāhāḍa Deva is to be found in Thomas, *Pathāns*, page 67ff. His position seems to have been that of "the recognised leader and lord paramount of the Hindu princes of Central India, struggling to preserve their kingdoms from the foreign invader" (*op. cit.* page 68). He is described in an inscription of his descendant Gaṇapati (Vikrama 1355, A.D. 1298) as the founder of a family of Rājput princes reigning at Nalapura (Narwar),¹ and his coins of the Narwar type bear dates varying from 129x to 1311 Vikrama (A.D. 1233 + x to 1254)²; but such of his coins as occur in the present hoard are not of the well-known Narwar type, and they would certainly seem to indicate some extension of his dominion. Ajmir would be a far more probable attribution for these coins, though the varieties of Rājput̄ coinage have not yet been studied with sufficient minuteness to enable us in most cases, to determine their different localities with precision.³ All that can be said with certainty in regard to the locality of these coins is that they do not belong to Narwar, the characteristic types of which are quite different.

As Thomas points out (page 70), the coins bearing the name of Chāhāḍa Deva represent him either (1) as an independent sovereign, or (2) as a tributary to the Muhammadan conqueror, Shams-ud-din Altamsh. All the seventy-two coins of his which are included in this hoard belong to the former class; and we may

¹ *Indian Antiquary*, XXII, p. 81.

² Cunningham, *Coins of Medieval India*, p. 90, Pl. X. 5-7.

³ Cunningham (*op. cit.* p. 91) attributes these coins to Ranthambhor. But if the chronological table given by Thomas, p. 45, is correct, Ranthambhor was captured by Altamsh in Hejira 623 = A.D. 1226; and Chāhāḍa Deva seems not to be heard of before A.D. 1234 (Thomas, p. 67).

perhaps conclude that the hoard was buried in the earlier part of his reign before the date of his submission to Altamsh.

Major Roberts has noticed the tradition which is still preserved of immigrations of the population from Rājputāna to Garhwāl. It is extremely probable that the Muhammadan conquests were one of the chief causes of such immigrations; and the hoard, which we have examined, may, therefore, be regarded as an historical record of considerable interest.

It remains only to add that, through the generosity of Major Roberts, specimens of each variety represented in the hoard have been added to the collection of the British Museum.

BRITISH MUSEUM :

E. J. RAPSON.

43. IV.—MUGHAL EMPERORS.

SOME RARE MUGHAL COINS.

(i) *Akbar.*

Æ.

Weight, 306 grains.

Size, '84 inch.

Date, 981 in Persian words.

دارالملک

Obverse.

حضرت دهلي

فلوس

Reverse.

ويک

مشاد (*Sun-i-Nuhşad haşhtād wa yak*)

نہصد

سنه

Fulūs of Akbar from the Dehli Mint with the title *Hazrat* are known, but this *Fulūs* bears the full title *Dār-ul-Mulk Hazrat*, which we meet on Humāyun's *Fulūs*.

(ii)

Æ.

Weight, 154 grains.

Size, '7 inch.

Date, 965 in Persian words.

Obverse.

فيروزه

(*Zarb Fulūs*

حجار

Higşār Fīroza)

ضرب فلوس

	تاریخ پنج شہت	(<i>Sun-i-Tárikh</i>
Reverse.	سنہ	<i>Nuhsad Shasht.</i>)
	نہ صد	(<i>wa) Panj</i>).

This *Fulūs* (hitherto unpublished) weighs 154 grains, and is therefore *half a Dām* or *half a Fulūs*.

There is an eight-rayed star just to the right of ف of *فلوہی*

(iii) *Farrukhsiyar.*

Æ.

Weight, 100 grains.

Size, .75 inch.

Mint, Bahádur garh. ?

No date.

Obverse.

فرخ سیر
فلوہی

Reverse.

بہادر گره ؟
ضرب

This is a new mint in copper of this king. As the word Bahádur is found engraven on this *Fulūs*, it is open to question whether it is (1) Bahádurgarh, (2) Bahádurpatan, or (3) Bahádurpúr. I was fortunate in getting this coin as a present from my kind friend Mr. Cowasjee Eduljee Kotwall of this place, along with some rubbings of copper *Fulūs* of the same king. On one of the rubbings I read distinctly the mint (Bah)ádurgarh.

(iv) *Jahándár Shah.*

Æ.

Weight, 166 grains.

Size, .75 inch.

Mint, Dáru-s-Salṭanat Burhānpūr.

Date, Ahad احد

Obverse. Portions of the usual legends.

در افاق زد سکہ چون مہر و ماہ
ابوالفتح غازی جہاندار شدہ

in three lines.

Reverse.

جلوہی مانوس
میدنت
سنہ احد دواالسلطنت
ضرب
برہانپور

Hitherto coins are known to have been issued from the Burhānpūr Mint either without, or with one of its titles—*viz.*, *Baldat* بلدة *Baldat-i-Fākhira* فاخرة and *Dāru-s-Sarūr* دارالسرور. This *mohr* adds a new epithet to this mint.

(v) *Rafiu-d-Darjāt.*

Æ.

Weight, 170 grains.

Size, .92 inch.

Mint, Zinat-ul-Bulād Ahmadābād.

Date, 11(31) A.H.

Obverse. Couplet in three lines thus—

زد سکه بهند با هزارين برکات
شاهنشاه بحرور رفيع الدرجات

The *Hijri* year is at the right of the top line.

۱۳۱۱.

Reverse.

احمدآباد
زينت البلاد
ضروب
جلوس صيمنت مانوس
سنه احد

I have had a rupee similar in design to this gold *mohr* presented by my kind friend Dr. Geo. P. Taylor, of Ahmadābād. It was Dr. Taylor who pointed out, for the first time, that *Ahmadābād*, like other epithets, was associated also with the title *Zinat-ul-Bulad* (the Beauty of Towns). *Vide* his interesting article on "Coins of Ahmadābād," pages 436-437, Plate V. Volume XX. No. LVI, Journal Bombay B.R.A. Society.

F. J. THĀNĀWĀLĀ,

Bombay.

44. A NEW TYPE OF THE COINS OF SHĀH SHUJĀ'.

The coin described below has recently been acquired for the Lucknow Museum from a find in the Bāndā District.

Obverse.

لا اله الا الله
محمد — مد
رسول الله

Margin doubtful.

Reverse.

(؟ با) دوغزي
محمد شاه احد شجاع
سكندر زنه — ر اله

Æ. Weight. 143. Size, .75 inch.

No coins of *Shāh Shujā* are recorded in the catalogues of the Calcutta and Lahore Museums. The British Museum Catalogue describes two coins (Nos. 690 and 691). The reading of the new coin differs from these in the case of the reverse. There is no trace of a square area, and in this respect the new coin resembles the early issues of *Shāh Jahān*. The horizontal mark below the first line is probably part of the word شاه, and the similar mark above the last line is possibly بن, the completion of the word الد which commences in the last line. I cannot explain the letter read as و which comes between باد and غازي in the first line. The reading of the last line suggests that the lower margin of the reverse on both the coins described in the B.M. catalogue should read *سکندر شاه*. In Coin No. 690 it is read *کبر (ا) باد* which is historically improbable. The right margin of Coin No. 691 is read *جلون اباد*. A comparison with Coin No. 690 shows that it should be *صاحبقران ثانی*. The top margin of No. 691 seems to read *نصیر الدین.....*, which presents a difficulty.

R. BURN.

45. ON THE IDENTITY OF THE COINS OF GUJARĀT FABRIC AND THE SŪRAT MAHMŪDIS.

In this article I purpose submitting evidence which, in my opinion, goes to prove that the silver coins designated in the British Museum Catalogue coins of "Gujarāt Fabric" are identical with those known to early writers under the name of "Sūrat Mahmūdis."

I. From the testimony of European travellers in India in the seventeenth century, it is clear that in the first half of that century silver coins of two distinct types were current in and around the city of Sūrat.

- (a) Edward Terry, "Chaplain to the Right Hon. Sir Thomas Row, Knt.," landed from the good ship "Charles" at the port of Sūrat on the 25th of September, 1616 (A.H. 1025). In his "Voyage to East India," first published in 1655, he thus writes:—

"They call their pieces of money roopes, of which there are some of divers values, the meanest worth two shillings and three-pence, and the best two shillings and nine-pence sterling. By these they account their estates and payments. They have another coin of inferior value in Guzarat, called Mamoodies, about twelve-pence sterling; both the former and these are made in halves, and some few in quarters; so that three-pence is the least piece of silver current in those countries, and very few of them to be seen.

“.....Their silver coin is made either round or square, but so thick as that it never breaks, nor wears out.¹”

The “meanest” rupees in this passage correspond doubtless to the ordinary rupees issued by Akbar and Jahāngir, weighing each about 180 grains; but the “best” rupees will be the heavy ones, from 212 to 220 grains each, that were struck in the first few years of Jahāngir’s reign. The ratio of the former to the latter would be 180: 220, or, as Terry has it, 27: 33. But besides these rupees a coin distinctly inferior was also current in Gujarāt, to wit, the “mamoody,” worth about 12*d.*, or a little less than half the ordinary rupee of that time.

(b) Sir Thomas Herbert, who, as Secretary to the English Embassy to Persia, journeyed in the East from 1627 to 1629 (A.H. 1037-9), writes in his “Travels” regarding the money of “Indostan.”

“The current money here is pice, which is an heavy round piece of brass, 30 of which make one shilling. The Mamoody, which is of good silver, round and thick, stamped after the manner of the Saracens (who allow no images) with Arabick letters, only importing the King and Mahomet, is in value one shilling of our coin; and the Roopee, which is made also of like pure silver, is 2*s.* 3*d.*, and a Pardow 4*s.*²

(c) But it is Albert de Mandelslo, resident in Sūrāt in 1638 (A.H. 1048), who gives the most precise information as to the money current in “the Kingdome of Guzuratā.” In his “Voyages and Travels” he writes:—

“They have also two sorts of money, to wit, the Mamoudies and the Ropias. The Mamoudis are made at Surat, of silver of a very base alloy, and are worth about twelve-pence sterling, and they go onely at Surat, Brodra, Broitchia, Cambaya, and those parts. Over all the Kingdome besides, as at Amadabath and elsewhere, they have Ropias Chagam, which are very good silver, and worth halfe a crown French mony. Their small mony is of copper, and these are the Peyses we spoke of, and whereof twenty-six make a Mamoudy, and fifty-four a Ropia..... Spanish Ryalls and Rixdollars are worth there five Mamoudis.....The Chequines and Ducats of Venice are more common there (than the Xeraphins), and are worth eight and a half, and

¹ Terry: “A Voyage to East India,” edition of 1777, p. 113.

² Harris: “A Compleat Collection of Voyages and Travels,” Vol. I., p. 411.

“sometimes nine Ropias, Surat-money, according to the change and the rate set on the money.”¹

Reckoning the French crown (écu), the Spanish real, and the German rixdollar (reichsthaler) each at 4s. 6d., and the Italian sequin and Venetian (gold) ducat each at 9s. 4d., we arrive, according to the above passage, at the following values: The “Ropia Chagam” 27d.; the Maḥmūdī, or “Ropia, Surat-money,” 12d., or 13d. or 10 8d. or 12 4d. It thus appears that, while the “Ropia Chagam,” which is evidently the full Imperial rupee, stood fairly constant at 27d., the value of the Sūrat Maḥmūdī fluctuated between a minimum of 10 8d. and a maximum of 13d. We should also bear in mind that the silver of the Maḥmūdī is here stated to have been inferior to that of the rupee; also that the district in which the Maḥmūdī passed as current coin was limited to the southern part of the province of Gujarāt, say from Sūrat to Cambay.

II. With what coin may we identify this Sūrat Maḥmūdī? Is it the same as the well-known Maḥmūdī of Persia?

That any Persian money should have been current in Gujarāt and restricted there to merely the southern districts is certainly very improbable.

Moreover the value of this Persian Maḥmūdī is given by Tavernier as one-sixteenth of the Venetian sequin, *i.e.*, 7d. or one-eighth of the Spanish dollar, *i.e.*, 6½d.² Also in the Table of Equivalences prefixed to J. P[hillips]’s English Translation of Tavernier’s “Six Voyages” (1636-1667) the Persian Maḥmūdī is entered as 8 05d. This, then, is plainly a considerably less valuable silver piece than the Sūrat Maḥmūdī ranging from 10 8d. to 13d.

When treating of the Persian coins, Fryer, whose eight letters were written from India or Persia between the years 1672 and 1681, states—

“3 Shahees is 1 Mam. Surat;
2 Shahees is 1 Mamood. Persia”³

When Fryer thus definitely distinguishes between the Sūrat Maḥmūdī and the Persian, we may safely conclude that the two coins are not identical.

III. Can the Sūrat Maḥmūdī have been a silver coin of one or other of the various types that were current in Cutch and Kāthiāwār (Navānagar, Jūnagaḥ, and Porbandar)?

The trade between Gujarāt and Cutch, or Gujarāt and Kāthiāwār, was for the most part carried on by land and not by

¹ Mandelslo: “Voyages and Travels”: English translation by John Davies, edition of 1662, p. 85.

² Ball’s edition of “Travels in India by Jean Baptiste Tavernier,” Vol I., p. 26, n. 4.

³ Fryer: “A New Account of East India and Persia”: edition of 1698, p. 211.

[N.S.]

sea, and the influence of this trade would thus be specially felt in the north and north-west portion of the province. It hence appears extremely improbable that any coins from Cutch or Kāṭhiāwār should become the circulating medium in South Gujarāt, yet not find acceptance as currency for Aḥmadābād and the north.

The coins of Cutch and Kāṭhiāwār may indeed have been originally called 'maḥmūdis,' but this designation soon gave place to the term 'kori,' the name that still attaches to them. Accordingly, if ever current in the Sūrāt district, they would, in all probability, have been denominated not the Maḥmūdis but the Koris of Sūrāt.

Lastly, these Koris, like the Persian Maḥmūdis, were all of them considerably inferior in value to the Sūrāt Maḥmūdi. The latter, we have seen, was reckoned at about 12*d.*, the rupee being 27*d.*, but the Cutch Kori is now, and was probably then too, appraised at 7*d.*, that of Jūnagaḍh at 7*3d.*, of Navānagar at 7*6d.*, and of Porbandar at 8*5d.* Or, to express these relative values in another way, in exchange for Rs. 100, 225 Sūrāt Maḥmūdis sufficed; but of the Rānāshāi Koris of Porbandar 318 were required; of the Jāmsāi Koris of Navānagar, 355; of the Diwānshāi Koris of Jūnagaḍh, 369; and of the Koris of Cutch, 380. In fact it would seem that, while the Sūrāt Maḥmūdi fluctuated between half a rupee and a third, inclining to the half, the Kori ranged in value between a third of a rupee and a quarter, inclining to the quarter.

For the above reasons the conclusion is inevitable that the Kori, whether of Cutch or of Kāṭhiāwār, cannot be regarded as identical with the Sūrāt Maḥmūdi.

IV. Were the Sūrāt Maḥmūdis the same as the silver coins of the Gujarāt Salṭanat?

No reason can be given why the Gujarāt Salṭanat coins should have remained current in the south of Gujarāt, yet not in the north. Indeed, bearing in mind that during the declining years of the Salṭanat, say, after the death of Bahādur in 1536, its coins probably all issued from a single mint—that of Aḥmadābād—we may fairly assume that they would survive in circulation longer in the Aḥmadābād, or northern, districts than in the south. It seems incredible that coins struck in Aḥmadābād should be superseded there and yet be accepted as the currency of Sūrāt.

It was in A.H. 980 (A.D. 1573) that Akbar conquered Gujarāt and annexed it to his Empire. In that same year he issued coins in his own name from the Aḥmadābād Mint, and we may safely affirm that thereafter he would permit no more coins to be struck in the name of the vanquished Sulṭān Muẓaffar III. Save for the five months of A.H. 991 (A.D. 1583) when Muẓaffar again held the sovereignty of Gujarāt, the minting of coins of the independent Salṭanat must have ceased in the year 1573, thus some sixty-five years before Mandelslo's visit to Sūrāt. Now it is surely most improbable that during all these sixty-five years the coinage—never very plentiful—of the conquered province of Gujarāt should have

maintained its standing as the recognised currency of the southern districts.

We have already seen that the Sūrāt Maḥmūdi was worth just about four-ninths of the Imperial rupee, hence, had both coins been of equally good silver, the Maḥmūdi would have weighed 80 grains over against the 180 grains of the rupee. Its actual weight, however, owing to the presence of a "very base alloy," must have been more than 80 grains, say between 85 and 90. Now, no silver coins of the Gujarāt Saltanat are known of this weight: they are all either much lighter or much heavier. Of fifteen silver coins of Muzaffar III. now in my possession, the weights are as follow:—

35, 36, 67, 70, 71, 72 (four), 73, 74, 110, 111, 112, and 114 grains. Of these not one could by any possibility be regarded as in value four-fifths of a Mughal rupee.

Thus we are compelled to the conclusion that the Sūrāt Maḥmūdi was not identical with any silver coin of the Gujarāt Saltanat.

V. If, now, this Maḥmūdi current in Sūrāt was not the Persian Maḥmūdi, nor the Cutch or Kāthiāwār Kori, nor the Maḥmūdi of the Gujarāt Saltanat, then, by the "method of exhaustion," it must have been the Coin of Gujarāt Fabric—the only remaining type. The identity of these two is confirmed by the following considerations:—

- (a) All the Gujarāt Fabric coins bear impressed the name of Akbar, the conqueror of the province, and hence the Imperial Government would readily sanction the use of such coins for currency in a portion of the Empire.
- (b) The dates on these coins, ranging, so far as yet known, from A.H. 989 to 1027 (A.D. 1581-1618), bring them easily within the period to which the statements made regarding the Sūrāt Maḥmūdi by Terry and Herbert and Mandelslo have reference.
- (c) One comes across these coins nowadays in the strip of country between Sūrāt and Aḥmadābād, but they are seldom found in Kāthiāwār or in North Gujarāt. Thus it is the area in which the Sūrāt Maḥmūdis were originally current that mainly supplies us at the present day with specimens of Gujarāt Fabric coins.
- (d) And—most important of all—the average weight of these Gujarāt Fabric coins which now come to hand proves to be 85 grains. Hence we may infer the original weight to have been about 90 grains. Considering both their base material and their weight, the money-value of such coins would bear to that of the Akbari or ordinary Jahāngiri rupee a ratio of just about 12 : 27—the ratio affirmed by Mandelslo to subsist between the Sūrāt Maḥmūdi and the "Ropia Chagam."

If, then, as the conclusion of the whole matter, we may regard

the Gujarāt Fabric coins as identical with the Sūrāt Maḥmūdīs, we may further unhesitatingly accept as true Mandelslo's express statement that these coins were "made at Sūrāt." For a currency purely local there was a purely local mintage. The capital city of the province, Aḥmadābād, issued imperial rupees in the very year of the imperial conquest; but soon thereafter the less important city in the south, Sūrāt, opened with, we may well believe, imperial sanction, a mint of its own, whence for some forty years issued not indeed "Ropias Chagam" but the Sūrāt Maḥmūdi, known to-day as the coins of "Gujarāt Fabric."

Aḥmadabad.

GEO. P. TAYLOR.

V.—MISCELLANEOUS.

46. ON SOME "GENEALOGICAL" COINS OF THE GUJARĀT SALṬĀNAT.

On the occasion of a recent visit to Bombay it was my good fortune to visit the rooms of the Bombay Branch of the Royal Asiatic Society in the company of my kind friend Mr. Framji Jamaspji Thanawala. He had previously written me that in the Society's cabinet he had discovered two coins of the Gujarāt Salṭānat, remarkable since bearing the pedigree of the regnant Sultān traced back, in each case, to the founder of the dynasty. Two such, if we may so call them, "genealogical" coins of Gujarāt have already been published, one in Thomas' "Pathān Kings," and the other in the Journal of the Bo. Br. R.A.S. No. LVIII. A description of all the four coins now known of this extremely rare type may prove of interest.

1. *Vide* Thomas: "Pathān Kings," page 352.

R.

Weight, 172 grains.

Date, A.H. 828 (by a misprint entered in Thomas as A.H. 823), A.D. 1424-25.

Obverse.

احمد شاه بن محمد

شاه بن مظفر شاه

جلد خلافتہ ۸۲۸

Reverse.

السلطان الاعظم

ناصر الدنيا والدين

ابو القاسم

2. In cabinet of Bo. Br. R.A.S. This coin was once looped, but the loop has been wrenched off.

R.
Weight, 167 grains.
Date, wanting.

Obverse. In square.

احمد شاه بن محمد
 شاه بن مظفر
 شاه خلعت خلافته

Margins quite illegible.

Reverse.

السلطان الاعظم
 ناصر الدنيا و الدين
 ابو الفتح

3. In cabinet of Bo. Br. R.A.S. This coin is looped.

R.
Weight, 188 grains.
Date, A.H. [8]65, A.D. 1460-61.

Obverse.

محمود شاه ابن محمد
 شاه ابن احمد شاه ابن محمد
 شاه ابن مظفر شاه
 ٦٥

On the last line the first word is probably السلطان

Reverse.

الوائق بالله العنان
 ناصر الدنيا و الدين
 ابو الفتح

This is the earliest Gujarāt coin yet known bearing the phrase *الوائق بالله العنان*, the Truster in Allah, the Gracious.

4. *Vide Jour Bo. Br. R.A.S., No. LVIII., page 334, and Plate IV.*

A.
Weight, 130 grains.
Date, A.H. 933, (A. D. 1526-27).

Obverse.

قطب الدنيا و الدين ابو الفضل
بهادر شاه بن مظفر شاه

Part of this legend is worn, but it is probable that the coin bore at this part the words ابو الفضل

Reverse.

بن محمود شاه بن محمد شاه
بن احمد شاه بن محمد شاه بن مظفر شاه
٩٣٣

Thus the legend, beginning on the obverse, is continued on the reverse.

This most interesting coin was very kindly presented to me four years ago by Mr. H. Nelson Wright, I.C.S.

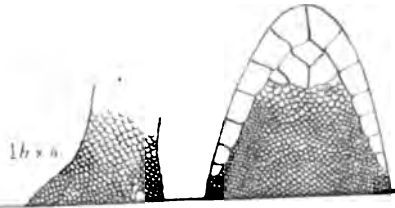
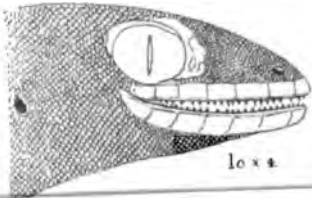
In connexion with these four "genealogical" coins in silver, reference may be made to a bullion coin of allied type, struck by

N.B.—The following Genealogical Table includes all the kings of the Gujarāt Sultanat whose names occur on any of the five coins :—

- | | |
|--|------------------------------|
| 2.—Muzaffar I., H. 810-813. | |
| 1.—Muhammad I., H. 806. | |
| 3.—Ahmad I., H. 813-846. | |
| 4.—Muhammad II., H. 846-855. | |
| <hr/> | |
| 5. - Qutbaldin Ahmad II.,
H. 855-863. | 6.—Mahmūd I., H. 863-917. |
| | 7.—Muzaffar II., H. 917-932. |
| | 8.—Bahādur, H. 932-943. |

Maḥmūd I in A.H. 863 (A.D. 1458-59), in which his relationship to the two preceding Sultāns is indicated. The coin is figured on Plate II (Nos. 15a, 15b) of the Jour. Bo. Br. R.A.S., No. LVIII.

Its legends read as follow :—



ERRATA ET CORRIGENDA.

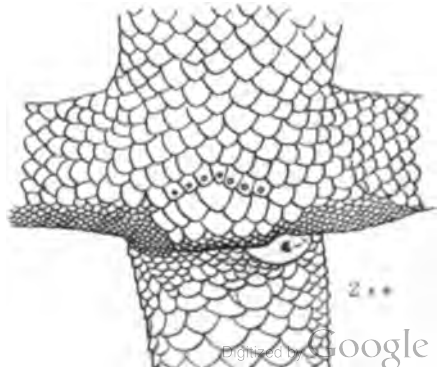
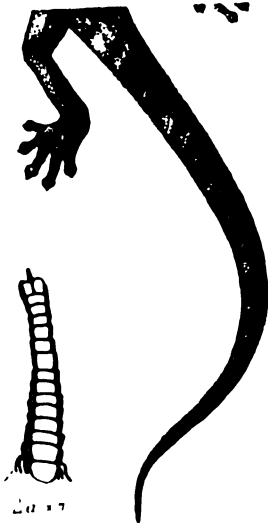
Dr. Annandale's paper, *Journal and Proceedings*, Vol. I., No. 5, May, 1905.

Page, 142, line, 31, for frontenasal, read frontonasal.

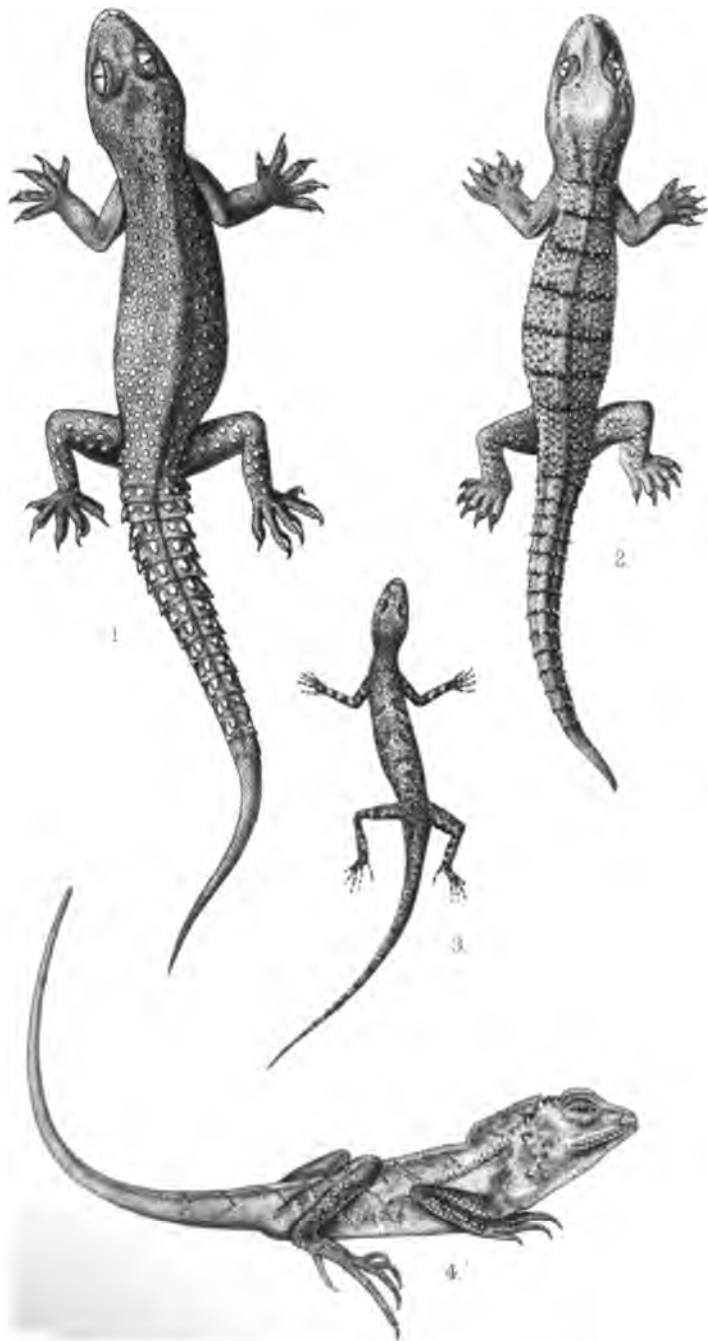
„ 147, „ 23, for has supraoculars, read has 5 supraoculars.

„ 151, „ 16, for Mr. Grey Pilgrim, read Mr. Guy Pilgrim.

„ 151, „ 33, Mr. Pilgrim's specimens of *Eremias brevirostris* come from Bahreyn Island, Persian Gulf, the *Varanus* and *Uromastix* from Oman.







A. O. Chatterjee del.

Photographed at Survey of India Office, Calcutta, May 1905.

1. HEMIDACTYLUS SUBTRIANGULOIDES.
2. GONATIDES ANDERSONII

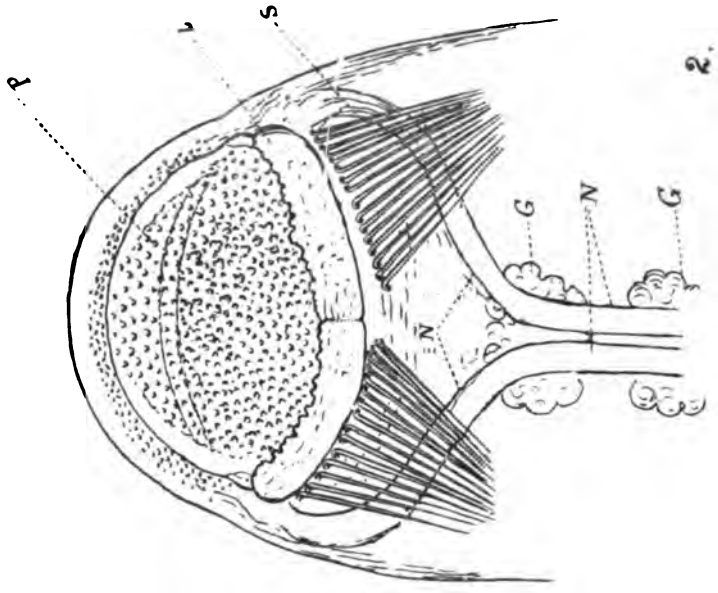
3. HEMIDACTYLUS THURUS, FROM ELLORE.
4. JAPALURA ANDERSONIANA



1.



3.



2.



AV 1



AV 2



AV 3



AR 4



AR 5



AR 6



AR 7



AR 8



AR 9



AR 10



AR 11



AR 12



AR 13



AR 14

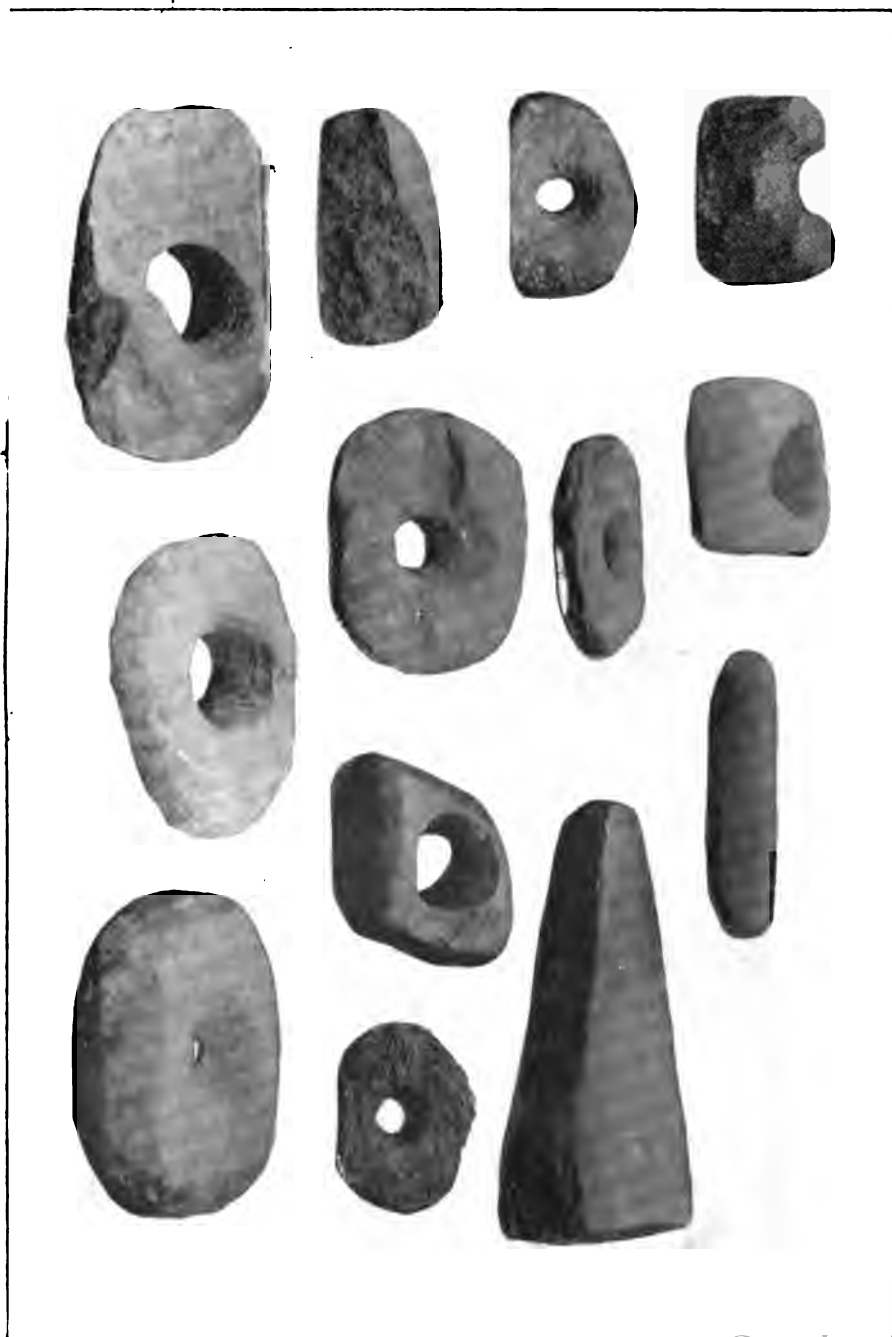


AR 15



AR 16









B = Ear.

A = Eye, C = Nostril.

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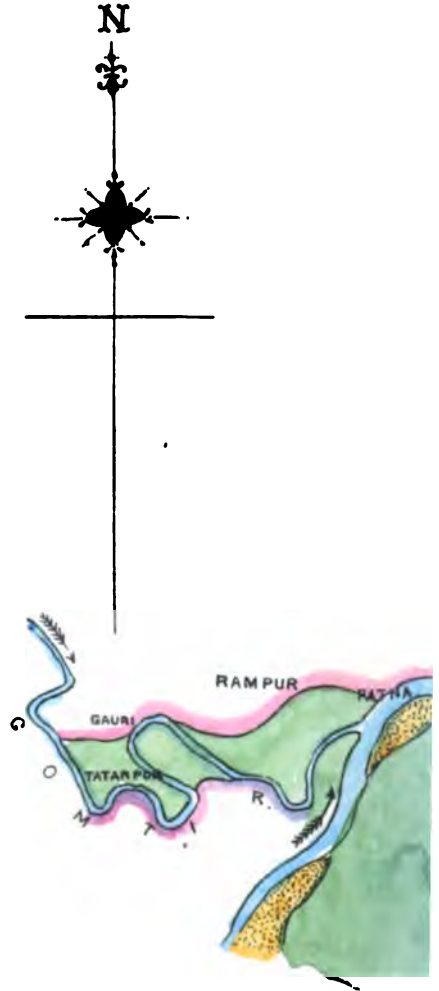
U.L. = Upper Lip (Upper Jaw Pad).

T. = Tusk.

L.J. = Lower Jaw.



E. = Eye.
N. = Nostril.



TRACING FROM THE MA CORRECTED UP TO 188 OF THE GA

SCALE
Furlongs 



THE MAP OF THE GHAZIPUR DISTRICT TO 1882 SHOWING THE LIMITS OF GANSAHADIR

SCALE OF

0 1 2 3 Miles.

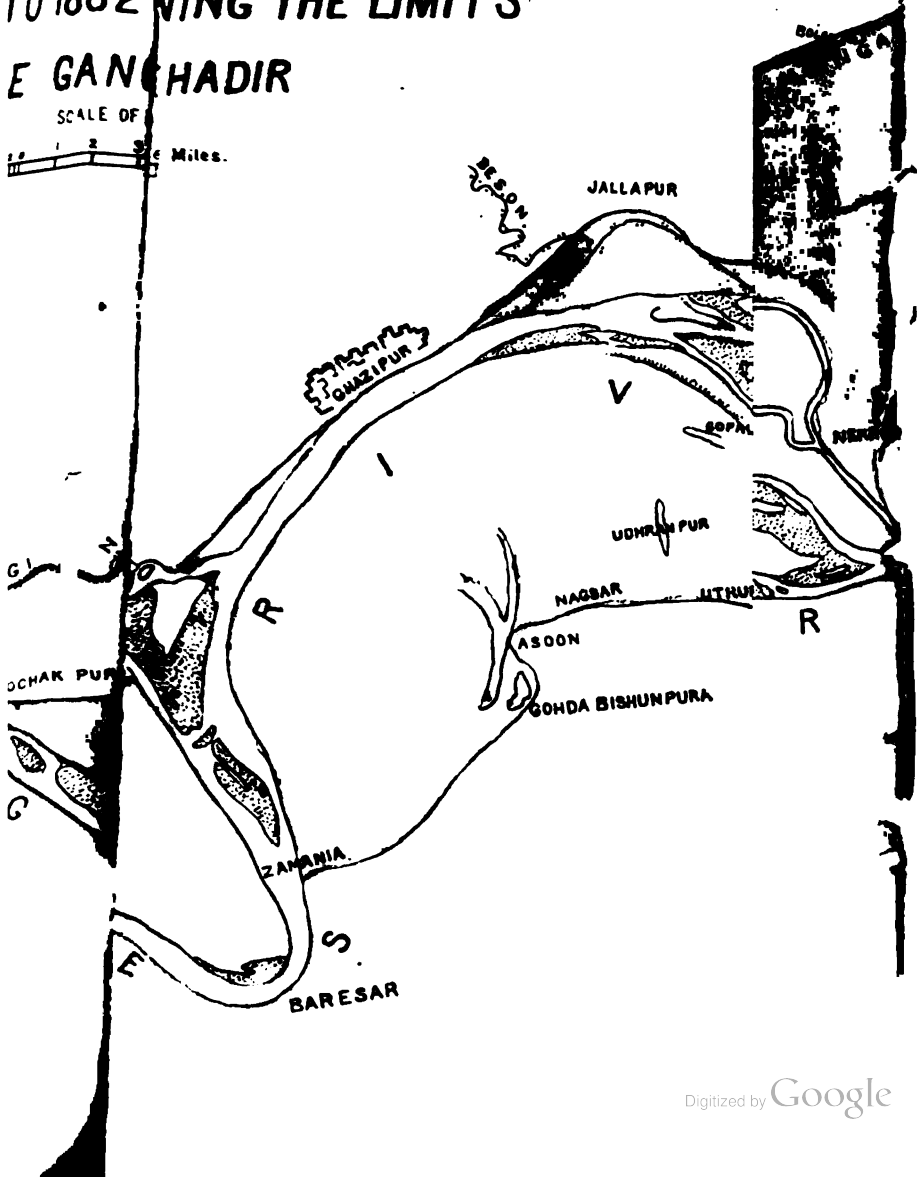
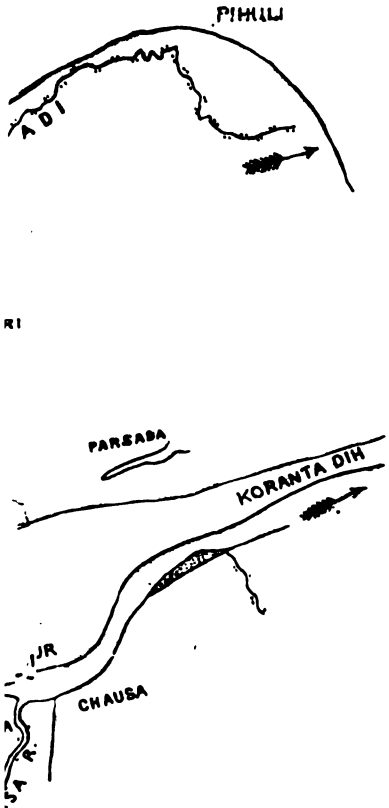
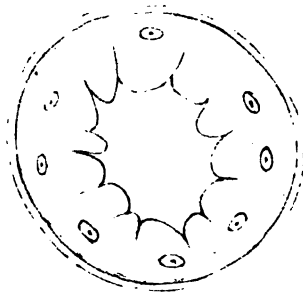


Plate X.

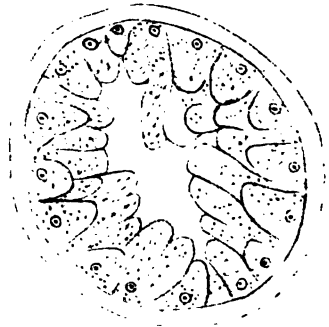




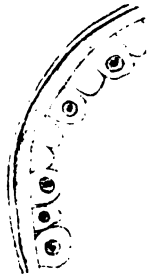
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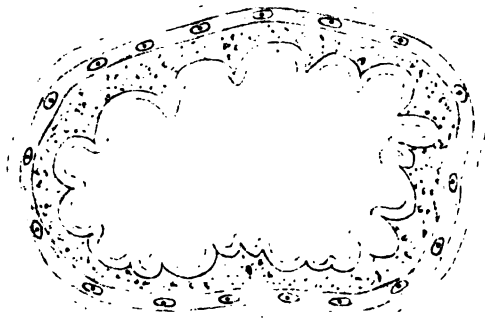
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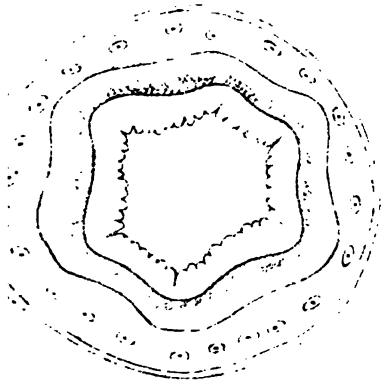
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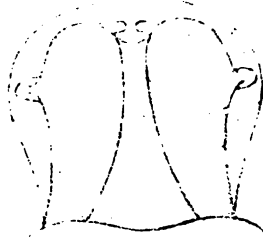
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v. Linstow del.

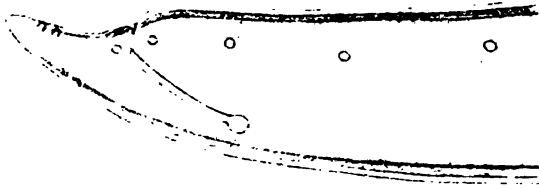
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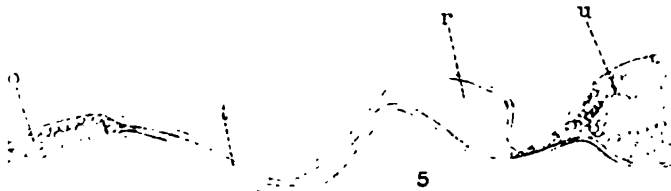
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2



10



5

S.O. Mondul lith.

S HALICORIS, Baird.

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OF THE
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1903.

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1906.

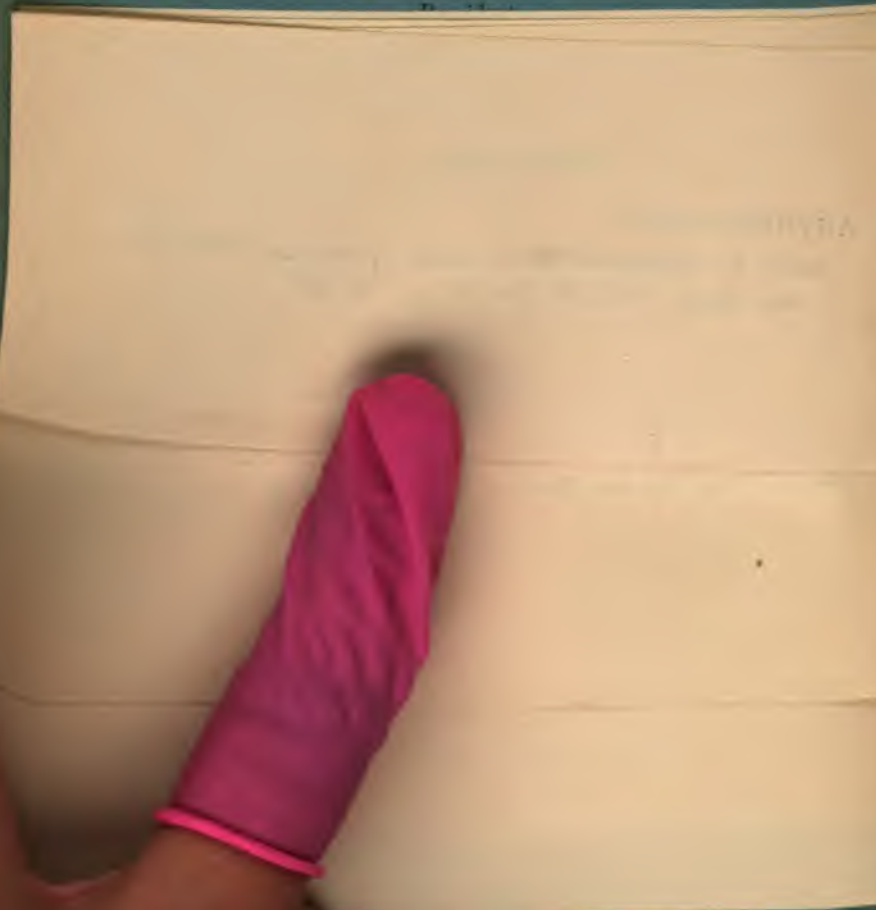
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PRINCIPAL PUBLICATIONS OF THE SOCIETY.

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Proceedings, 1865—1904, (now amalgamated with Journal).
Memoirs, Vol. 1, etc., 1905, etc.
Journal, Vols. 1—73, 1832—1904.
Journal and Proceedings [N. S.] Vol. 1, etc., 1905, etc.

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- ANNANDALE, N.—The Hydra of the Calcutta Tanks. Jour. and
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- HILL, E. G.—The composition of the oil from Bir Bahoti or
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- ANNANDALE, N.—Contributions to Oriental Herpetology II.
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List of Officers and Members of Council

OF THE

ASIATIC SOCIETY OF BENGAL.

For the year 1905.



[The main body of the page contains a list of names and titles, which is extremely faint and illegible due to fading or low contrast. The text appears to be organized into columns, likely listing the names of officers and council members.]

H. H. Bayden, Esq., D.A., F.G.S.

E. Thornton, Esq., F.R.I.B.A.

Pandit Satis Chandra Vidyābhūṣaṇa, M.A.

· PRINCIPAL PUBLICATIONS OF THE SOCIETY.

Asiatic Researches, Vols. I—XX and Index, 1788—1839.
Proceedings, 1865—1904, (now amalgamated with Journal).
Memoirs, Vol. 1, *etc.*, 1905, *etc.*
Journal, Vols. 1—73, 1832—1904.
Journal and Proceedings, [*N. S.*] Vol. 1, *etc.*, 1905, *etc.*
Centenary Review, 1784—1883.
Bibliotheca Indica, 1848, *etc.*

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PRIVILEGES OF ORDINARY MEMBERS.

- (a) To be present and vote at all General Meetings which are held on the first Wednesday in each month, except in September and October.
- (b) To propose and second candidates for Ordinary Membership.
- (c) To introduce visitors at the Ordinary General Meetings and to the grounds and public rooms of the Society during the hours when they are open to members.
- (d) To have personal access to the Library and other public rooms of the Society, and to examine its collections.
- (e) To take out books, plates and manuscripts from the Library.
- (f) To receive *gratis*, copies of the *Journal and Proceedings* and *Memoirs* of the Society.
- (g) To fill any office in the Society on being duly elected thereto.

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